Appendix A

NOP and Responses

Notice of Preparation for a Environmental Impact Report

2026 Tulare County Association of Governments Regional Transportation Plan & Sustainable Communities Strategy (2026 TCAG RTP/SCS)

The Tulare County Association of Governments (TCAG), as Lead Agency, is publishing this Notice of Preparation (NOP) to prepare a Program Environmental Impact Report (Program EIR) in accordance with the California Environmental Quality Act (CEQA) for the 2026 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS). Pursuant to CEQA Section 15082, TCAG is soliciting comments from all interested persons, responsible and trustee agencies, and organizations concerned with the project as to the scope and content of the EIR and the environmental information to be analyzed in connection with the proposed project.

The project description, location, environmental review requirements, and probable environmental issues to be addressed in the EIR are listed below. The RTP will guide the development of the Regional and Federal Transportation Improvement Programs (RTIP and FTIP) as well as other transportation programming documents and plans throughout Tulare County, including all incorporated cities. Specifically, the project will update the region's goals and policies for meeting current and future mobility needs and identify programs, actions, and a revised plan of projects intended to address these needs consistent with adopted goals and policies.

The SCS is required by California Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008. SB 375 mandates regional greenhouse gas (GHG) reduction targets for passenger vehicles and, pursuant to that law, the California Air Resources Board has established 2020 and 2035 GHG reduction targets for each region covered by one of the state's metropolitan planning organizations (MPOs). As the MPO for Tulare County, TCAG is required to prepare an SCS or Alternative Planning Strategy that demonstrates how GHG reduction targets will (or, in the case of an Alternative Planning Strategy, can) be met through integrated land use, housing, and transportation planning. TCAG will identify multiple potential growth scenarios to meet the goals of SB 375.

A scoping meeting for this project will be held on **Wednesday May 21, 2025** at **1:00 p.m.** via Zoom and in-person at the TCAG office located at 210 N Church Suite B Visalia, CA, 93291. The following options are available to members of the public to attend the scoping meeting via Zoom:

Option 1: By Teleconference: Zoom Meeting Direct Link: https://bit.ly/TCAG-RTP2026

Click the link above and following the prompts to join the meeting (see Meeting ID and Passcode below).

Option 2: By Telephone. The toll-free call-in number is **1(888) 475-4499**. After calling in you will be prompted to enter the following information:

Meeting ID: 864 2400 7562
Passcode: 964044

Due to the time limits mandated by state law, your response must be sent **not later than 30 days** after the date of this notice, or **June 6, 2025**.

Please send your response to Steven Ingoldsby, Senior Regional Planner, either electronically to singoldsby@tularecag.ca.gov; or at the Lead Agency mailing address shown above. Please include a return address and the name of a contact person in your agency/organization.

For more information, visit https://tularecog.org/tcag/planning/rtp/rtp-2026/ or call (559) 623-0450.

PROJECT DESCRIPTION AND SCOPE OF ENVIRONMENTAL ANALYSIS

Project Title

2026 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report (2026 RTP/SCS Program EIR)

Project Location

The project will be located in all of Tulare County. TCAG, as both the federally-designated MPO and the State-designated Regional Transportation Planning Agency for Tulare County, is required by both federal and State law to prepare a long-range (at least 20- year) transportation planning document known as an RTP. The RTP/SCS is an action-oriented document used to achieve a coordinated and balanced regional transportation system. TCAG member agencies include the County of Tulare, the eight incorporated cities, and the Tule River Reservation. Figure 1 illustrates the TCAG region.

Project Description

The project consists of the 2026 RTP/SCS, which is an update to the 2022 RTP/SCS. The RTP will be used to allocate federal and state funding for regional transportation projects. The SCS component of the project identifies policies and strategies to balance land use and transportation systems to reduce greenhouse gas emissions from cars and light trucks. TCAG does not implement individual projects in the RTP/SCS; these projects are implemented by local jurisdictions and other implementing agencies.

CEQA and its implementing regulations (*State CEQA Guidelines*) require TCAG as the Lead Agency to prepare an EIR for any discretionary government action, including programs and plans that have the potential to cause significant adverse environmental effects. The 2026 RTP/SCS is a regional planning document that provides policy guidance to local jurisdictions within Tulare County. It does not provide project-level CEQA compliance planning guidance. Therefore, given the regional nature of the RTP, preparation of a Program EIR, which is a “first tier” CEQA document designed to consider “broad policy alternatives and program-wide mitigation measures,” is appropriate (*State CEQA Guidelines* Sec. 15168). The Program EIR will programmatically evaluate environmental effects, including direct and indirect effects, growth-inducing impacts, and cumulative impacts, and will include alternatives to the project as well as mitigation measures, as needed, to offset any identified significant adverse environmental effects. In addition, the Program EIR can be used as a foundation for subsequent, local or site-specific environmental reviews to be conducted by local agencies (for planning and land use projects) and implementation agencies (for transportation projects), as individual projects in the region move forward through the environmental review process (*State CEQA Guidelines* Sec. 15385).

In addition to fulfilling legal requirements, the 2026 RTP/SCS Program EIR will inform decision makers and the public about potential significant environmental effects associated with the implementation of the RTP/SCS and alternatives. This first-tier regional-scale environmental analysis will also help local agencies evaluate and reduce direct and indirect impacts, growth-inducing impacts, and cumulative environmental effects with respect to local projects.

This NOP is intended to inform responsible agencies, interested agencies, organizations, and individuals of the preparation of the 2026 RTP/SCS Program EIR. Comments regarding the scope of the Program EIR received during the 30-day NOP review period will be used to refine the scope and content of the Program EIR, as appropriate.

CEQA Streamlining

SB 375 contains CEQA incentives, or streamlining provisions, to encourage coordinated land use and transportation planning. Certain types of development projects (i.e., transit priority projects or residential/mixed use residential projects, as defined by the statute) may qualify for CEQA streamlining as long as the requisite criteria are met. Generally, meeting such criteria means that the proposed project is determined to be consistent with an adopted SCS. Consistency will be determined by the local jurisdiction that is the lead agency for each project to be streamlined. TCAG's primary role is to include appropriate information in the SCS, such as land use information as required by SB 375 and/or guidance to aid in interpreting land use information, that will allow a jurisdiction to make a consistency determination with respect to appropriate streamlining options on a project-by-project basis.

Public Outreach

Community engagement and outreach are fundamental to the development of the 2026 RTP/SCS. As an MPO, TCAG is required to adopt a public participation plan for the development of the SCS. TCAG has solicited and will continue to solicit community involvement and input on the 2026 RTP/SCS through several committees, as outlined in the 2026 TCAG Public Participation Plan. The 2026 TCAG Public Participation Plan can be viewed on the TCAG website at https://tularecog.org/tcag/planning/public-participation-plan/. Two such committees are the Tulare County Transportation Authority (TCTA) and the Technical Advisory Committee (TAC). TCTA and TAC are comprised of representatives from across the County, and they evaluate transportation and transportation planning issues and make recommendations to the TCAG Board of Governors about potential Board agenda items. Other committees will include the Social Service Transportation Advisory Council (SSTAC), which represents disabled and senior transit users, persons of limited means, transit operators, and local youth, the Measure R Citizen's Oversight Committee, the Sustainable Corridor Committee, and the Tulare County Regional Transit Agency that all serve as venues for informing the public on a variety of issues, projects and programs.

Issues to Be Addressed in the EIR

The project has the potential to result in environmental effects in multiple environmental impact areas, and, therefore, the EIR will analyze all impact areas identified in Appendix G as follows:

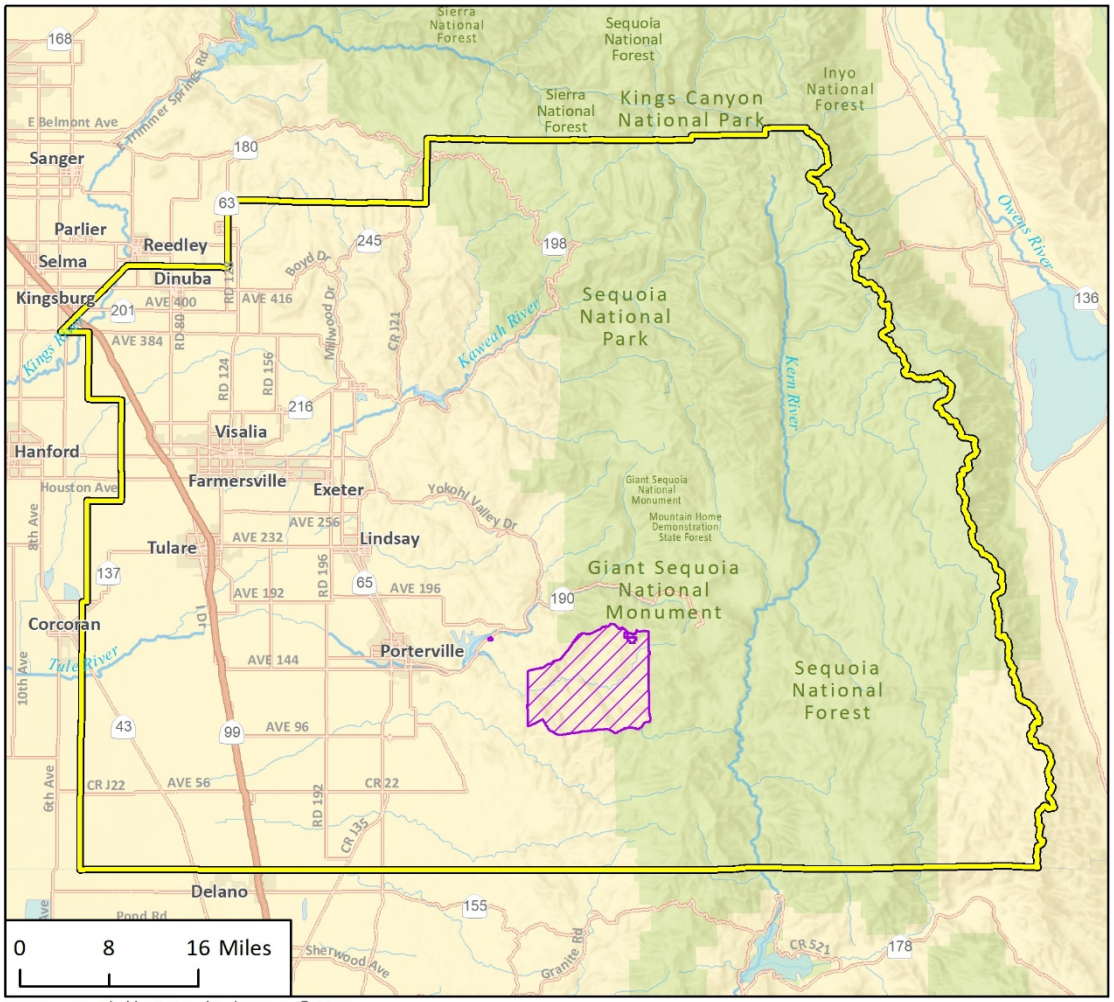
- Aesthetics
- Agriculture & Forestry Resources
- Air Quality
- Biological Resources
- Greenhouse Gas Emissions
- Energy
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Noise
- Population & Housing
- Public Services & Utilities
- Recreation

- Cultural Resources
- Geology and Soils
- Wildfire
- Land Use & Planning
- Mineral Resource
- Transportation
- Tribal Cultural Resources

In addition, the EIR will address cumulative impacts, growth inducing impacts, and other issues required by CEQA.

After the Draft EIR is circulated for public review, responses will be provided to comments that raise significant environmental issues, and a Final EIR will be prepared. The TCAG Board will ultimately consider the Programmatic EIR for the 2026 TCAG RTP/SCS and make a determination on the certification of the EIR.

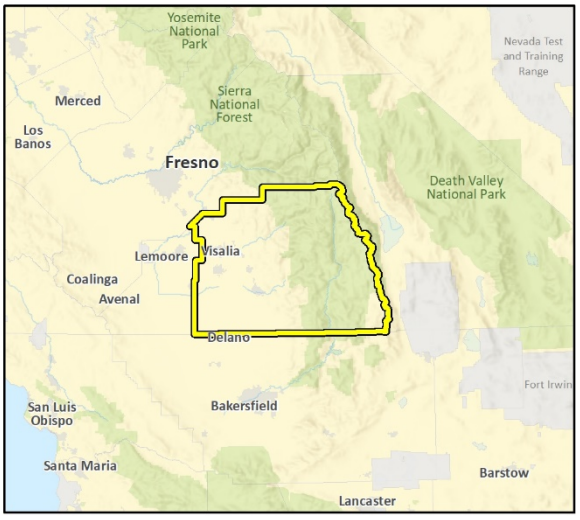
Figure 1
Project Location Map



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Tulare County
Tule River Reservation

N



Eric VonBerg

From: Steven L Ingoldsby <singoldsby@tularecag.ca.gov>
Sent: Friday, May 30, 2025 9:14 AM
To: Eric VonBerg
Subject: [EXT] FW: Request to be added on to CEQA notification list for 2026 Tulare County Association of Governments Regional Transportation Plan & Sustainable Communities Strategy aka (SCH2025050379).

CAUTION: This email originated from outside of Rincon Consultants. Be cautious before clicking on any links, or opening any attachments, until you are confident that the content is safe .

From: Theresa Rettinghouse <trettinghouse@biologicaldiversity.org>
Sent: Thursday, May 29, 2025 4:14 PM
To: Steven L Ingoldsby <singoldsby@tularecag.ca.gov>
Cc: Elizabeth Reid-Wainscoat <ereidwainscoat@biologicaldiversity.org>
Subject: Request to be added on to CEQA notification list for 2026 Tulare County Association of Governments Regional Transportation Plan & Sustainable Communities Strategy aka (SCH2025050379).

This Message Is From an External Sender
This message came from outside your organization.

Good afternoon Mr. Ingoldsby,

Please add myself and my colleague Elizabeth Reid-Wainscoat (cc'd) to the notice list for the **2026 Tulare County Association of Governments Regional Transportation Plan & Sustainable Communities Strategy** aka (SCH2025050379).

Best regards,
Theresa

Theresa Rettinghouse
(she/her/hers)
Urban Wildlands Paralegal
Center for Biological Diversity
trettinghouse@biologicaldiversity.org
Ph: 510-844-7100 ext 320
2100 Franklin Street, Suite 375
Oakland, CA 94612

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

June 20, 2025

Steven Ingoldsby, Senior Regional Planner
Tulare County Associations of Governments
210 N Church, Suite B
Visalia, California 93291
(559) 623-0450
singoldsby@tulare.ca.gov

Subject: 2026 Tulare County Association of Governments (TCAG) Regional Transportation Plan & Sustainable Communities Strategy (Plan)
Notice of Preparation (NOP)
SCH No.: 2025050379

Dear Steve Ingoldsby:

The California Department of Fish and Wildlife (CDFW) received a NOP to prepare a Programmatic Environmental Impact Report (PEIR) from the TCAG, as Lead Agency, for the above referenced Plan pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Plan that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Plan that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation,

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, projects tiered from this Plan may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of a project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

Fully Protected Species: CDFW has jurisdiction over fully protected species of birds, mammals, amphibians and reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except as follows

- Take is for necessary scientific research,
- Efforts to recover a fully protected, endangered, or threatened species, live capture, and relocation of a bird species for the protection of livestock, or
- They are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (Fish & G. Code, §§ 3511, 4700, 5050, & 5515).

Additionally, specified types of infrastructure projects may be eligible for an Incidental Take Permit (ITP) for unavoidable impacts to fully protected species if certain conditions are met (see Fish & G. Code §2081.15). Project proponents should consult with CDFW early in the project planning process if an ITP may be pursued for a project tiered from this Plan.

Unlisted Species: Species of plants and animals need not be officially listed as Endangered, Rare, or Threatened (E, R, or T) on any State or federal list to be considered E, R, or T under CEQA. If a species can be shown to meet the criteria for E, R, or T, as specified in the CEQA Guidelines section 15380, CDFW recommends it be fully considered in the environmental analysis for the Plan.

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Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include sections 3503 (regarding unlawful take, possession, or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PLAN DESCRIPTION SUMMARY

Proponent: Tulare County Association of Governments (TCAG)

Objective: The Plan updates the 2022 RTP/SCS. The Plan would be used to allocate federal and State funding for regional transportation projects. The Plan would also identify policies and strategies to balance land use and transportation systems to reduce greenhouse gas emissions from cars and light trucks.

Location: The Plan includes all of Tulare County, including the eight incorporated cities and the Tule River Reservation.

COMMENTS AND RECOMMENDATIONS

The NOP indicates the PEIR will inform decision makers and the public about potential significant environmental effects associated with the implementation of the Plan and Plan alternatives. CDFW offers the comments and recommendations below to assist TCAG in adequately identifying and/or mitigating the Plan's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the PEIR prepared for this Plan.

Special-Status Species

Based on aerial imagery and species occurrence records from the California Natural Diversity Database (CNDDB) (CDFW 2025) as well as CDFW's familiarity with biological resources in the Plan area, and given that the Plan encompasses the entirety of Tulare County, CDFW recommends that special-status species be considered as part of the PEIR that will be prepared for this Plan, including, but not limited to, the species identified in **Attachment 1** of this letter. These resources need to be evaluated and addressed as part of the PEIR and prior to any approvals that would allow vegetation- or ground-disturbing activities. CDFW also recommends that the PEIR analyze potential impacts to these species and provide measurable mitigation measures that would reduce impacts to less than significant levels as needed for projects tiered (streamlined) from this Plan.

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Botanical Surveys: CDFW recommends that the PEIR for this Plan include a measure requiring that projects tiered from this Plan located within natural habitats be surveyed by a qualified botanist for any possible special-status plants following the "Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities". CDFW recommends that the plant surveys be floristic and, if necessary, utilize a known reference site for any special-status plants in order to provide a high level of confidence in the effort and results.

If a special-status plant is found, CDFW recommends that the special-status plant species be avoided whenever possible by delineating and observing a no disturbance buffer of at least 50 feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If buffers cannot be maintained, then consultation with CDFW is warranted to determine appropriate minimization and mitigation measures for impacts to special-status plant species. If a State or federally listed plant species is identified during botanical surveys, it is recommended that consultation with CDFW and/or the United States Fish and Wildlife Service (USFWS) be conducted to determine permitting needs.

California Endangered Species Act: Reasonably foreseeable future projects tiered from this Plan may be subject to CDFWs regulatory authority pursuant to the California Endangered Species Act (CESA). In the event that species listed under CESA are detected during surveys, consultation with CDFW is warranted to discuss how to implement the project and avoid "take," or if avoidance is not feasible, to acquire a State ITP, pursuant to Fish and Game Code section 2081 subdivision (b), prior to any ground disturbing activities. In addition, CDFW recommends that mitigation measures for the CESA listed species be fully addressed in the CEQA document prepared for any future project tiered from this Plan.

California Natural Diversity Database (CNDDB): Please note that the CNDDB is populated by voluntary submissions of species detections. As a result, species may be present in locations not depicted in the CNDDB but where there is suitable habitat and features capable of supporting species. A lack of an occurrence record, or lack of recent occurrence records, in the CNDDB does not mean that a species is not present. All projects tiered from this Plan should adequately assess any potential project-related impacts to biological resources by ensuring biological surveys are conducted by a qualified wildlife biologist during the appropriate survey period(s) and using the appropriate protocol survey methodology as warranted in order to determine whether or not any special-status species are present at or near the project area.

CEQA Alternatives Analysis: CDFW recommends that the information and results obtained from the cumulative impacts analysis conducted as part of this Plan's PEIR be used to develop and modify the Plan's alternatives to avoid and minimize impacts to biological resources to the maximum extent possible. Please note that when efforts to

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avoid and minimize impacts have been exhausted for projects tiered from this Plan, remaining impacts to sensitive biological resources may need to be mitigated to reduce impacts to a less than significant level, if feasible.

Cumulative Impact Analysis: Given that a Plan serves primarily as a planning tool and that future project-level CEQA documents are expected to be tiered from it, CDFW recommends that a cumulative impact analysis be conducted for all potential biological resources that will either be significantly or potentially significantly impacted by implementation of the Plan, including those whose impacts are determined to be less than significant with mitigation incorporated or for those resources that are rare or in poor or declining health and will be impacted by any future project, even if those impacts are expected to be relatively small (i.e. less than significant). CDFW recommends cumulative impacts be analyzed using an acceptable methodology to evaluate the impacts of past, present, and reasonably foreseeable future projects on resources and be focused specifically on the resource, not the project. An appropriate resource study area identified and utilized for this analysis is advised. CDFW staff is available for consultation in support of cumulative impacts analyses as a trustee and responsible agency under CEQA.

Federally Listed Species: CDFW recommends projects tiered from this Plan consult with the U.S. Fish and Wildlife Service (USFWS) on potential impacts to federally listed species. Take under the Federal Endangered Species Act (ESA) is more broadly defined than CESA; take under the ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS is advised well in advance of any ground disturbing activities.

Lake and Streambed Alteration: Reasonably foreseeable future projects tiered from this Plan may be subject to CDFW's regulatory authority pursuant to Fish and Game Code section 1600 et seq. Fish and Game Code section 1602 requires project proponents to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake; or (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial in nature. For information on notification requirements, please refer to CDFW's website (https://wildlife.ca.gov/Conservation/LSA) or contact CDFW staff in the Central Region Lake and Streambed Alteration Program at (559) 243-4593, or R4LSA@wildlife.ca.gov.

CDFW therefore recommends that the PEIR for this Plan include information related to these requirements of Fish and Game code and advise that projects tiered from this

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Plan retain a qualified biologist to determine if potential impacts to streams may require the need to notify pursuant to Fish and Game Code section 1602.

Nesting birds: CDFW encourages that all projects tiered from this Plan occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the nesting season (February 1st through September 15th), each future project applicant is responsible for ensuring that implementation of their project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections as referenced above.

CDFW recommends that a qualified biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around each future project site to identify nests and determine their status. A sufficient area means any area potentially affected by a project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from each future project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is a compelling biological or ecological reason to do so, such as when the construction areas would be concealed from a nest site by topography. CDFW recommends that a qualified biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during the Plan or tiered project surveys to the CNDDB. The

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CNDDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

The Plan, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist TCAG in identifying and mitigating the Plan's impact on biological resources. More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). Questions regarding this letter or further coordination should be directed to John Riedel, Environmental Scientist, at (559) 807-1453 or john.riedel@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Julie Vance
FA83F09FE08945A...

Julie A. Vance
Regional Manager

ATTACHMENT

ec: State Clearinghouse
Governor's Office of Planning and Research
State.Clearinghouse@opr.ca.gov

U. S. Fish and Wildlife Service
Matthew Nelson,
Matthew_Nelson@fws.gov

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REFERENCES

California Department of Fish and Wildlife. 2025. Biogeographic information and observation system (BIOS). https://www.wildlife.ca.gov/Data/BIOS. Accessed 10 June 2025.

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Attachment 1

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
SPECIAL-STATUS SPECIES TABLE

PROJECT: 2026 Tulare County Association of Governments Regional Transportation Plan & Sustainable Communities Strategy

SCH No.: 2025050379

Common Name	Scientific Name	Status	
		State	Federal
Gray wolf	*Canis lupus*	E	E
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	E	E
Bald eagle	*Haliaeetus leucocephalus*	E/FP	None
California Condor	*Gymnogyps californianus*	E/FP	E
Least Bell's vireo	*Vireo bellii pusillus*	E	E
Willow flycatcher	*Empidonax traillii*	E	None
Blunt-nosed leopard lizard	*Gambelia sila*	E/FP	E
Foothill yellow-legged frog - south Sierra Distinct Population Segment	*Rana boylii pop. 5*	E	E
California jewelflower	*Caulanthus californicus*	E	E
Kaweah brodiaea	*Brodiaea insignis*	E	None
San Joaquin adobe sunburst	*Pseudobahia peirsonii*	E	T
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	E	T
Springville clarkia	*Clarkia springvillensis*	E	T
Fisher - southern Sierra Nevada Evolutionary Significant Unit	*Vulpes vulpes necator pop. 2*	T	E
San Joaquin kit fox	*Vulpes macrotis mutica*	T	E
San Joaquin antelope squirrel	*Ammospermophilus nelsoni*	T	None
Sierra Nevada red fox - Sierra Nevada Distinct Population Segment	*Vulpes vulpes necator pop. 2*	T	E
Swainson's hawk	*Buteo swainsoni*	T	None
Tricolored blackbird	*Agelaius tricolor*	T	None
California tiger salamander – Central California Distinct Population Segment	*Ambystoma californiense*	T	T
Striped adobe-lily	*Fritillaria striata*	T	None
Golden eagle	*Aquila chrysaetos*	FP	None

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Western burrowing owl	*Athene cunicularia hypugaea*	C	None
Crotch’s bumble bee	*Bombus crotchii*	C	None
Greene's tuctoria	*Tuctoria greenei*	R	E
Tracy's eriastrum	*Eriastrum tracyi*	R	None
Twisselmann's buckwheat	*Eriogonum twisselmannii*	R	None
American badger	*Taxidea taxus*	SSC	None
Tulare grasshopper mouse	*Onychomys torridus tularensis*	SSC	None
Pallid bat	*Antrozous pallidus*	SSC	None
Townsend's big-eared bat	*Corynorhinus townsendii*	SSC	None
Western mastiff bat	*Eumops perotis californicus*	SSC	None
Loggerhead shrike	*Lanius ludovicianus*	SSC	None
Mountain plover	*Charadrius montanus*	SSC	None
Coast horned lizard	*Phrynosoma blainvillii*	SSC	None
Northern California legless lizard	*Anniella pulchra*	SSC	None
Northwestern pond turtle	*Actinemys marmorata*	SSC	PT
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	SSC	None
Western spadefoot	*Spea hammondii*	SSC	PT
Vernal pool tadpole shrimp	*Lepidurus packardi*	SA	E
Vernal pool fairy shrimp	*Branchinecta lynchi*	SA	T
San Joaquin woollythreads	*Monolopia congdonii*	CRP	E

E= Endangered, T=Threatened, C= Candidate for listing as Threatened and/or Endangered, R= Rare, SSC= Species of Special Concern, FP= Fully Protected, PT=Proposed Threatened, SA=Special Animal, CRP=California Rare Plant Rank 1B

STATE OF CALIFORNIA Gavin Newsom, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION

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May 23, 2025

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JUN 05 2025

MAIL RECEIVED

Re: 2025050379 2026 Tulare County Association of Governments Regional Transportation Plan & Sustainable Communities Strategy Project, Tulare County

Dear Mr. Ingoldsby:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).

2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.

3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).

4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:

a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or

b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:

a. If part or all of the APE has been previously surveyed for cultural resources.

b. If any known cultural resources have already been recorded on or adjacent to the APE.

c. If the probability is low, moderate, or high that cultural resources are located in the APE.

d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Melina.Carlos@NAHC.ca.gov.

Sincerely,

Melina Carlos

Melina Carlos
Cultural Resources Analyst

cc: State Clearinghouse

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

May 12, 2025

Steven Ingoldsby
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Project: Notice of Preparation of a Draft Program Environmental Impact Report for the Tulare County Association of Governments 2026 Regional Transportation Plan/Sustainable Communities Strategy

District CEQA Reference No: 20250540

Dear Mr. Ingoldsby:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (DPEIR) from the Tulare County Association of Governments (TCAG) for the 2026 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) project. Per the NOP, the project consists of updating TCAG's transportation plan for the region's transportation system to ensure the plan adequately addresses future transportation needs (Project). The RTP/SCS will be used to allocate federal and state funding for regional transportation projects while addressing the balance between land use and transportation systems. The Project is located within Tulare County including incorporated cities (Visalia, Tulare, Porterville, Dinuba, Lindsay, Exeter, Woodlake, Farmersville), unincorporated communities, and the Tule River Reservation, all in California.

The Project is a program level project and, while project-specific data may not be available until specific approvals are being granted, the DPEIR should include a discussion of policies, which when implemented, will reduce or mitigate impacts on air quality at the individual project level.

The District offers the following comments at this time regarding the Project:

1) Transportation/Land Use Planning

Nearly all development projects within the San Joaquin Valley Air Basin, from RTP/SCS to individual projects have the potential to generate air pollutants, making it more difficult to attain state and federal ambient air quality standards. Land use decisions are critical to improving air quality within the San Joaquin Valley Air Basin

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because land use patterns greatly influence transportation needs, and motor vehicle emissions are the largest source of air pollution in the Valley. Land use decisions and project design elements such as preventing urban sprawl, encouraging mix-use development, and project design elements that reduce vehicle miles traveled (VMT) have proven to be beneficial for air quality. The District recommends that future development projects incorporate strategies that reduce VMTs and require the cleanest available heavy duty trucks, vehicles, and off-road equipment, including zero and near-zero technologies. VMTs can be reduced through encouragement of mix-use development, walkable communities, etc. Additional design element options can be found at:
https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

In addition, the District recommends future development projects incorporate strategies that will advance implementation of the best practices listed in Tables 5 and 6 of California Air Resource Board's (CARB's) Freight Handbook Concept Paper, to the extent feasible. This document compiles best practices designed to address air pollution impacts as "practices" which may apply to the siting, design, construction, and operation of freight facilities to minimize health impacts on nearby communities. The concept paper is available at:
https://ww2.arb.ca.gov/sites/default/files/2020-03/2019.12.12%20-%20Concept%20Paper%20for%20the%20Freight%20Handbook_1.pdf

2) Project Related Emissions

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM2.5) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 standards.

As such, the District recommends that the DPEIR stipulate that future development projects within the RTP/SCS identify and characterize project construction and operational air emissions. The District recommends the air emissions be compared to the District significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts:
https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf. The District recommends that future projects be mitigated to the extent feasible, and that future projects with air emissions above the aforementioned thresholds be mitigated to below these thresholds.

The District understands that the RTP/SCS is a program-level project where future individual project-specific data may not be available at this time. As such, the DPEIR should include a discussion of policies, which when implemented, will require assessment and characterization of future development project-level emissions, and

subsequently require mitigation of air quality impacts to the extent feasible at the individual project-specific level. Future development environmental reviews of potential impacts on air quality should incorporate the following items:

2a) Construction Emissions

The District recommends for future development projects, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment.

2b) Operational Emissions

Future development projects operational (ongoing) air emissions from mobile sources and stationary sources should be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf.

Recommended Mitigation Measure: At a minimum, future development project related impacts on air quality should be reduced to levels below the District's significance thresholds through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at: https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

2c) Recommended Model for Quantifying Air Emissions

Future development projects criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

3) Health Risk Screening/Assessment

The TCAG should evaluate the risk associated with the future development for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for future development projects that may be approved under implementation of the RTP/SCS. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):
A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology. Please contact the District for assistance with performing a Prioritization analysis.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

Health Risk Assessment:
Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the health impacts would exceed the District's established risk thresholds, which can be found here: https://ww2.valleyair.org/permitting/ceqa/.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Future development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors to prevent the creation of a significant health risk in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources.

4) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for any future development projects that may be approved under implementation of the Project with emissions that exceed 100 pounds per day of any pollutant.

An AAQA uses air dispersion modeling to determine if emission increase from a project will cause or contribute to a violation of State or National Ambien Air Quality Standards. An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: https://ww2.valleyair.org/permitting/ceqa/.

5) Voluntary Emission Reduction Agreement

Future development projects could have a significant impact on air quality. The District recommends the DPEIR include a feasibility discussion on implementing a Voluntary Emission Reduction Agreement (VERA) as a mitigation measure for future development projects that may be approved under implementation of the Project that are determined to exceed the District's CEQA significance thresholds.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of agricultural equipment with the latest generation technologies.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

6) Truck Routing

Truck routing involves the assessment of which roads Heavy Heavy-Duty (HHD) trucks take to and from their destination, and the emissions impact that the HHD trucks may have on residential communities and sensitive receptors.

The District recommends HHD truck routing patterns for future development projects be evaluated, with the aim of limiting exposure of residential communities and sensitive receptors to emissions. This evaluation would consider the current truck routes, the quantity and type of each truck (e.g., Medium Heavy-Duty, HHD, etc.), the destination and origin of each trip, traffic volume correlation with the time of day or the day of the week, overall Vehicle Miles Traveled (VMT), and associated

exhaust emissions. The truck routing evaluation would also identify alternative truck routes and their impacts on VMT and air quality.

7) Vegetative Barriers and Urban Greening

The District suggests future development projects consider incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residences, schools, healthcare facilities).

While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the update of gaseous pollutants. Examples of vegetative barriers include, but are not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help improve air quality and public health in addition to enhancing the overall beautification of a community with drought tolerant, low-maintenance greenery.

8) On-Site Solar Deployment

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that solar power systems as an emission reduction strategy be incorporated for future development projects that may be approved under implementation of the Project.

9) Electric Infrastructure

To support and accelerate the installation of electric vehicle charging equipment and development of required infrastructure, the District offers incentives to public agencies, businesses, and property owners of multi-unit dwellings to install electric charging infrastructure (Level 2 and 3 chargers). The purpose of the District's Charge Up! Incentive program is to promote clean air alternative-fuel technologies and the use of low or zero-emission vehicles. The District recommends that the future development project proponents install electric vehicle chargers at project sites, and at strategic locations.

Please visit https://ww2.valleyair.org/grants/charge-up for more information.

10) Locomotives, and Railcar Movers/Switchers

To reduce air quality emission impacts, the District recommends future development freight and passenger train operators to utilize newer, and cleaner technology. Replacing older locomotives is important to reduce the public's exposure to diesel emissions, including PM2.5 in the form of diesel particulate and NOx. These pollutants negatively impact human health, especially for sensitive populations such as children and the elderly. New, clean-technology locomotives generate significantly lower emissions than older, uncontrolled diesel locomotives.

The District offers the following incentive program for locomotive fleets interested in transitioning to newer, clean technology:

- Heavy-Duty Program – https://ww2.valleyair.org/grants/locomotive-program/ Locomotive replacements, including switcher locomotives and railcar movers can be funded as an eligible project category under the District's utilizing funding provided to support AB 617. These projects are administered according to the Carl Moyer Program guidelines.

11) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: https://ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (209) 557-6446.

11a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to

Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

Future development projects may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, project proponents shall obtain an ATC permit from the District for equipment/activities subject to District permitting requirements. For further information or assistance, project proponents may contact the District's SBA Office at (209) 557-6446.

11b) District Rule 9510 - Indirect Source Review (ISR)

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Accordingly, future development projects may be subject to District Rule 9510 if upon full buildout, the project would equal or exceed any of the following applicability thresholds, depending on the type of development and public agency approval mechanism:

Table 1: ISR Applicability Thresholds

Development Type	Discretionary Approval Threshold	Ministerial Approval / Allowed Use / By Right Thresholds
Residential	50 dwelling units	250 dwelling units
Commercial	2,000 square feet	10,000 square feet
Light Industrial	25,000 square feet	125,000 square feet
Heavy Industrial	100,000 square feet	500,000 square feet
Medical Office	20,000 square feet	100,000 square feet
General Office	39,000 square feet	195,000 square feet
Educational Office	9,000 square feet	45,000 square feet
Government	10,00 square feet	50,000 square feet
Recreational	20,000 square feet	100,000 square feet
Other	9,000 square feet	45,000 square feet

District Rule 9510 also applies to any transportation or transit development projects where construction exhaust emissions equal or exceed two tons of NOx or two tons of PM.

In the case the future development project(s) are subject to District Rule 9510, per Section 5.0 of the rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency so that proper mitigation and clean air design under ISR can be incorporated into the public agency's analysis.

Information about how to comply with District Rule 9510 can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview

The AIA application form can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/forms-and-applications/

District staff is available to provide assistance with determining if future development projects will be subject to Rule 9510, and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

11c) District Rule 9410 (Employer Based Trip Reduction)

Future development projects may be subject to District Rule 9410 (Employer Based Trip Reduction) if the project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees.

Information about District Rule 9410 can be found online at: https://ww2.valleyair.org/compliance/rule-9410-employer-based-trip-reduction/.

For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org

11d) Other District Rules and Regulations

Future development projects may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

12)District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Eric McLaughlin by e-mail at eric.mclaughlin@valleyair.org or by phone at (559) 230-5808.

Sincerely,



For: Mark Montelongo
Director of Policy and Government Affairs

Appendix B

Air Quality Emissions Calculations

TCAG 2026 RTP/SCS Air Quality Emission Calculations

Scenario	VMT	ROG (tons/day)	NO_X (tons/day)	PM_{10} (tons/day)[1]	$PM_{2.5}$ (tons/day)[1]	Fugitive PM_{10} (tons/day)[2]	Fugitive $PM_{2.5}$ (tons/day)[2]	Total Fugitive PM (tons/day)[2]	CO (tons/day)	SOx (tons/day)
2025 TCAG Baseline										
On-Road Motor Vehicles	10,662,601	1.99	3.86	0.34	0.140	0.29	0.09	0.38	15.43	0.05
2049 No Project										
On-Road Motor Vehicles	12,458,425	1.04	3.12	0.40	0.149	0.35	0.11	0.45	9.44	0.04
2049 Project										
On-Road Motor Vehicles	11,566,124	0.96	2.89	0.37	0.138	0.32	0.10	0.42	8.73	0.04
Difference (2049 RTP/SCS - Baseline)	**903,523**	**(1.02)**	**(0.96)**	**0.03**	**(0.002)**	**0.03**	**0.01**	**0.03**	**(6.69)**	**(0.01)**
%	**8%**	**-51%**	**-25%**	**8%**	**-1%**	**9%**	**8%**	**9%**	**-43%**	**-18%**
Difference (2049 RTP/SCS - No Project)	**(892,301)**	**(0.07)**	**(0.22)**	**(0.03)**	**(0.011)**	**(0.03)**	**(0.01)**	**(0.03)**	**(0.70)**	**(0.00)**
%	**-7%**	**-7%**	**-7%**	**-8%**	**-8%**	**-8%**	**-8%**	**-8%**	**-7%**	**-7%**

Notes

Annual emissions - Total

1) Includes tire and break wear in the total PM

2) Includes only tire and break wear

Scenario	Diesel $PM_{2.5}$ (tons/day)	Diesel PM_{10} (tons/day)[1]	Diesel NO_X (tons/day)	Diesel SO_X (tons/day)	Diesel CO (tons/day)
2025 TCAG Baseline					
On-Road Motor Vehicles	0.03	0.04	2.55	0.013	0.70
2049 No Project					
On-Road Motor Vehicles	0.02	0.03	2.61	0.013	0.69
2049 Project					
On-Road Motor Vehicles	0.02	0.02	2.42	0.012	0.64
Difference (2049 RTP/SCS - Baseline)	**(0.01)**	**(0.01)**	**(0.13)**	**(0.001)**	**(0.06)**
%	**-32%**	**-32%**	**-5%**	**-8%**	**-8%**

Notes

Diesel annual emissions -Total Exhaust (TOTEX)

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	All Other Buses-Dsl	All Other Buses - Dsl	57.0	2,851.3	2,851.3	0	506.9	0.0007	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDA-Dsl	LDA - Dsl	236.7	7,495.8	7,495.8	0	989.5	0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT1-Dsl	LDT1 - Dsl	6.01	98.1	98.1	0	17.0	0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT2-Dsl	LDT2 - Dsl	133.8	5,914.1	5,914.1	0	637.3	0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD1-Dsl	LHD1 - Dsl	5,458.1	192,154.8	192,154.8	0	68,655.8	0.0548	0.0008
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD2-Dsl	LHD2 - Dsl	1,887.1	68,212.2	68,212.2	0	23,737.1	0.0175	0.0003
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MDV-Dsl	MDV - Dsl	833.0	32,613.8	32,613.8	0	3,834.5	0.0005	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MH-Dsl	MH - Dsl	375.6	3,219.9	3,219.9	0	37.6	0.0006	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	Motor Coach-Dsl	Motor Coach - Dsl	16.5	2,205.7	2,205.7	0	379.1	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	PTO-Dsl	PTO-Dsl		6,444.7	6,444.7	0		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	SBUS-Dsl	SBUS - Dsl	344.0	7,568.5	7,568.5	0	4,981.6	0.0006	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	4.95	331.6	331.6	0	113.7	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	6.55	455.7	455.7	0	150.5	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	22.2	1,182.6	1,182.6	0	509.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	36.6	7,497.1	7,497.1	0	841.8	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	49.3	1,664.2	1,664.2	0	703.4	0.0002	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	34.4	1,171.6	1,171.6	0	491.5	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	210.5	7,123.8	7,123.8	0	3,004.0	0.0004	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	40.8	2,167.8	2,167.8	0	582.4	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	277.7	11,574.4	11,574.4	0	3,209.8	0.0006	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	667.4	28,765.5	28,765.5	0	7,715.0	0.0004	0.0002
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	607.1	25,467.0	25,467.0	0	7,018.0	0.0014	0.0002
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	432.8	18,053.9	18,053.9	0	5,003.5	0.0004	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	9.86	477.1	477.1	0	114.0	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	257.4	15,101.1	15,101.1	0	2,975.3	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	2.93	195.0	195.0	0	67.3	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	3.86	267.5	267.5	0	88.7	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	13.2	698.9	698.9	0	302.7	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	19.9	5,081.8	5,081.8	0	458.1	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 4-Dsl	T6 Public-Dsl	21.5	750.7	750.7	0	110.3	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 5-Dsl	T6 Public-Dsl	42.9	1,540.9	1,540.9	0	219.8	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 6-Dsl	T6 Public-Dsl	55.3	1,923.4	1,923.4	0	283.8	0.0002	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 7-Dsl	T6 Public-Dsl	71.1	3,221.6	3,221.6	0	364.6	0.0002	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 5-Dsl	T6 Utility-Dsl	14.8	599.0	599.0	0	189.3	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 6-Dsl	T6 Utility-Dsl	2.80	113.0	113.0	0	35.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 7-Dsl	T6 Utility-Dsl	3.17	157.0	157.0	0	40.6	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	691.1	139,325.3	139,325.3	0	15,881.9	0.0022	0.0083
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	620.2	166,651.1	166,651.1	0	14,252.9	0.0025	0.0092
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	262.7	60,541.4	60,541.4	0	6,037.4	0.0010	0.0039
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	13.9	2,588.8	2,588.8	0	228.1	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 POAK Class 8-Dsl	T7 POAK-Dsl	61.6	6,134.3	6,134.3	0	1,008.1	0.0001	0.0002
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 POLA Class 8-Dsl	T7 POLA-Dsl	72.6	9,151.1	9,151.1	0	1,187.7	0.0001	0.0003
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Public Class 8-Dsl	T7 Public-Dsl	216.1	9,266.9	9,266.9	0	1,108.7	0.0013	0.0003
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	113.2	7,340.0	7,340.0	0	520.8	0.0003	0.0002
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	11.2	752.4	752.4	0	105.6	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	88.1	4,992.2	4,992.2	0	830.2	0.0001	0.0002
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Other Class 8-Dsl	T7 Single-Dsl	481.3	25,611.5	25,611.5	0	4,533.9	0.0006	0.0011
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1,231.7	90,737.3	90,737.3	0	17,897.0	0.0016	0.0049
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Utility Class 8-Dsl	T7 Utility-Dsl	10.8	479.1	479.1	0	138.2	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	UBUS-Dsl	UBUS - Dsl	11.0	1,092.6	1,092.6	0	44.1	0.0000	
								TOTALs	**16,142.6**	**986,173.7**	**986,173.7**	**0.0**	**201,638.0**	**0.1**	**0.0**

Veh_Tech	TOG_STREX	TOG_TOTEX	TOG_DIURN	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS
All Other Buses-Dsl		0.0008				0.0008	0.0007	0.0000		0.0007			
LDA-Dsl		0.0002				0.0002	0.0002			0.0002			
LDT1-Dsl		0.0000				0.0000	0.0000			0.0000			
LDT2-Dsl		0.0001				0.0001	0.0001			0.0001			
LHD1-Dsl		0.0555				0.0555	0.0481	0.0007		0.0488			
LHD2-Dsl		0.0178				0.0178	0.0154	0.0002		0.0156			
MDV-Dsl		0.0005				0.0005	0.0004			0.0004			
MH-Dsl		0.0006				0.0006	0.0005			0.0005			
Motor Coach-Dsl		0.0001				0.0001	0.0000	0.0001		0.0001			
PTO-Dsl		0.0002				0.0002	0.0002			0.0002			
SBUS-Dsl		0.0007				0.0007	0.0005	0.0001		0.0006			
T6 CAIRP Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 7-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Instate Delivery Class 4-Dsl		0.0002				0.0002	0.0002	0.0000		0.0002			
T6 Instate Delivery Class 5-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Instate Delivery Class 6-Dsl		0.0004				0.0004	0.0003	0.0000		0.0004			
T6 Instate Delivery Class 7-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T6 Instate Other Class 4-Dsl		0.0007				0.0007	0.0006	0.0001		0.0006			
T6 Instate Other Class 5-Dsl		0.0006				0.0006	0.0004	0.0001		0.0005			
T6 Instate Other Class 6-Dsl		0.0016				0.0016	0.0012	0.0002		0.0014			
T6 Instate Other Class 7-Dsl		0.0005				0.0005	0.0003	0.0001		0.0004			
T6 Instate Tractor Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Tractor Class 7-Dsl		0.0003				0.0003	0.0002	0.0001		0.0002			
T6 OOS Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Public Class 4-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T6 Public Class 5-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Public Class 6-Dsl		0.0002				0.0002	0.0001	0.0000		0.0002			
T6 Public Class 7-Dsl		0.0003				0.0003	0.0002	0.0000		0.0002			
T6 Utility Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T7 CAIRP Class 8-Dsl		0.0105				0.0105	0.0019	0.0073		0.0092			
T7 NNOOS Class 8-Dsl		0.0118				0.0118	0.0022	0.0081		0.0104			
T7 NOOS Class 8-Dsl		0.0049				0.0049	0.0009	0.0034		0.0043			
T7 Other Port Class 8-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T7 POAK Class 8-Dsl		0.0003				0.0003	0.0001	0.0002		0.0003			
T7 POLA Class 8-Dsl		0.0004				0.0004	0.0001	0.0003		0.0004			
T7 Public Class 8-Dsl		0.0016				0.0016	0.0011	0.0003		0.0014			
T7 SWCV Class 8-Dsl		0.0004				0.0004	0.0002	0.0002		0.0004			
T7 Single Concrete/Transit Mix Class 8-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T7 Single Dump Class 8-Dsl		0.0003				0.0003	0.0001	0.0002		0.0003			
T7 Single Other Class 8-Dsl		0.0017				0.0017	0.0005	0.0010		0.0015			
T7 Tractor Class 8-Dsl		0.0065				0.0065	0.0014	0.0043		0.0057			
T7 Utility Class 8-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
UBUS-Dsl		0.0000				0.0000	0.0000			0.0000			
	0.0	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**

Veh_Tech	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX
All Other Buses-Dsl	0.0007	0.0018	0.0002		0.0020	0.0090	0.0002	0.0007	0.0098	0.0002	0.0000		0.0003
LDA-Dsl	0.0002	0.0025			0.0025	0.0018			0.0018	0.0001			0.0001
LDT1-Dsl	0.0000	0.0002			0.0002	0.0002			0.0002	0.0000			0.0000
LDT2-Dsl	0.0001	0.0007			0.0007	0.0003			0.0003	0.0000			0.0000
LHD1-Dsl	0.0489	0.1399	0.0055		0.1454	0.4772	0.0135		0.4823	0.0111	0.0002		0.0113
LHD2-Dsl	0.0157	0.0431	0.0019		0.0450	0.1406	0.0045		0.1428	0.0035	0.0001		0.0036
MDV-Dsl	0.0004	0.0076			0.0076	0.0037			0.0036	0.0002			0.0002
MH-Dsl	0.0005	0.0019			0.0019	0.0195			0.0191	0.0005			0.0005
Motor Coach-Dsl	0.0001	0.0002	0.0011		0.0013	0.0042	0.0009	0.0009	0.0059	0.0001	0.0000		0.0001
PTO-Dsl	0.0002	0.0021			0.0021	0.0243			0.0242	0.0000			0.0000
SBUS-Dsl	0.0006	0.0017	0.0018		0.0035	0.0401	0.0088	0.0026	0.0510	0.0002	0.0000		0.0002
T6 CAIRP Class 4-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000
T6 CAIRP Class 5-Dsl	0.0000	0.0000	0.0000		0.0000	0.0002	0.0000	0.0001	0.0003	0.0000	0.0000		0.0000
T6 CAIRP Class 6-Dsl	0.0000	0.0000	0.0001		0.0001	0.0004	0.0001	0.0003	0.0009	0.0000	0.0000		0.0000
T6 CAIRP Class 7-Dsl	0.0001	0.0003	0.0001		0.0003	0.0032	0.0001	0.0005	0.0039	0.0001	0.0000		0.0001
T6 Instate Delivery Class 4-Dsl	0.0002	0.0005	0.0004		0.0010	0.0034	0.0007	0.0011	0.0051	0.0001	0.0000		0.0001
T6 Instate Delivery Class 5-Dsl	0.0001	0.0003	0.0003		0.0006	0.0017	0.0004	0.0008	0.0029	0.0000	0.0000		0.0000
T6 Instate Delivery Class 6-Dsl	0.0004	0.0012	0.0018		0.0030	0.0091	0.0026	0.0050	0.0166	0.0001	0.0000		0.0001
T6 Instate Delivery Class 7-Dsl	0.0001	0.0003	0.0003		0.0006	0.0039	0.0005	0.0010	0.0053	0.0000	0.0000		0.0000
T6 Instate Other Class 4-Dsl	0.0007	0.0019	0.0026		0.0045	0.0153	0.0040	0.0060	0.0251	0.0003	0.0000		0.0003
T6 Instate Other Class 5-Dsl	0.0005	0.0020	0.0058		0.0078	0.0205	0.0083	0.0154	0.0440	0.0002	0.0000		0.0002
T6 Instate Other Class 6-Dsl	0.0014	0.0042	0.0058		0.0100	0.0321	0.0086	0.0130	0.0535	0.0006	0.0000		0.0007
T6 Instate Other Class 7-Dsl	0.0005	0.0018	0.0038		0.0057	0.0251	0.0056	0.0102	0.0406	0.0002	0.0000		0.0002
T6 Instate Tractor Class 6-Dsl	0.0000	0.0000	0.0001		0.0001	0.0005	0.0001	0.0002	0.0008	0.0000	0.0000		0.0000
T6 Instate Tractor Class 7-Dsl	0.0002	0.0013	0.0022		0.0035	0.0175	0.0032	0.0060	0.0264	0.0001	0.0000		0.0001
T6 OOS Class 4-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000	0.0002	0.0000	0.0000		0.0000
T6 OOS Class 5-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000
T6 OOS Class 6-Dsl	0.0000	0.0000	0.0000		0.0001	0.0003	0.0000	0.0002	0.0005	0.0000	0.0000		0.0000
T6 OOS Class 7-Dsl	0.0000	0.0002	0.0000		0.0002	0.0023	0.0001	0.0003	0.0026	0.0000	0.0000		0.0000
T6 Public Class 4-Dsl	0.0001	0.0001	0.0002		0.0003	0.0034	0.0009	0.0001	0.0044	0.0000	0.0000		0.0000
T6 Public Class 5-Dsl	0.0001	0.0003	0.0004		0.0007	0.0043	0.0014	0.0003	0.0059	0.0000	0.0000		0.0000
T6 Public Class 6-Dsl	0.0002	0.0004	0.0004		0.0008	0.0095	0.0022	0.0003	0.0119	0.0001	0.0000		0.0001
T6 Public Class 7-Dsl	0.0002	0.0005	0.0007		0.0012	0.0141	0.0024	0.0005	0.0169	0.0001	0.0000		0.0001
T6 Utility Class 5-Dsl	0.0000	0.0000	0.0001		0.0001	0.0003	0.0001	0.0003	0.0007	0.0000	0.0000		0.0000
T6 Utility Class 6-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000
T6 Utility Class 7-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000
T7 CAIRP Class 8-Dsl	0.0100	0.0083	0.1194		0.1277	0.2354	0.0941	0.0389	0.3710	0.0049	0.0000		0.0050
T7 NNOOS Class 8-Dsl	0.0111	0.0089	0.1331		0.1420	0.2760	0.1119	0.0364	0.4120	0.0056	0.0000		0.0057
T7 NOOS Class 8-Dsl	0.0046	0.0036	0.0563		0.0600	0.1050	0.0474	0.0152	0.1626	0.0022	0.0000		0.0022
T7 Other Port Class 8-Dsl	0.0001	0.0003	0.0008		0.0011	0.0047	0.0007	0.0006	0.0059	0.0001	0.0000		0.0001
T7 POAK Class 8-Dsl	0.0003	0.0007	0.0035		0.0042	0.0118	0.0029	0.0026	0.0171	0.0001	0.0000		0.0001
T7 POLA Class 8-Dsl	0.0004	0.0012	0.0041		0.0053	0.0188	0.0034	0.0030	0.0248	0.0002	0.0000		0.0002
T7 Public Class 8-Dsl	0.0014	0.0038	0.0027		0.0065	0.0861	0.0077	0.0042	0.0971	0.0005	0.0000		0.0005
T7 SWCV Class 8-Dsl	0.0004	0.0006	0.0016		0.0022	0.0666	0.0045	0.0018	0.0717	0.0001	0.0000		0.0001
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000	0.0000	0.0003		0.0004	0.0009	0.0003	0.0004	0.0016	0.0000	0.0000		0.0000
T7 Single Dump Class 8-Dsl	0.0003	0.0006	0.0027		0.0032	0.0093	0.0022	0.0027	0.0141	0.0001	0.0000		0.0001
T7 Single Other Class 8-Dsl	0.0016	0.0029	0.0145		0.0174	0.0462	0.0124	0.0147	0.0731	0.0005	0.0000		0.0006
T7 Tractor Class 8-Dsl	0.0061	0.0078	0.0700		0.0779	0.1600	0.0580	0.0779	0.2937	0.0023	0.0000		0.0023
T7 Utility Class 8-Dsl	0.0000	0.0001	0.0001		0.0002	0.0007	0.0001	0.0008	0.0016	0.0000	0.0000		0.0000
UBUS-Dsl	0.0000	0.0000			0.0000	0.0001			0.0001	0.0000			0.0000
	0.1	**0.3**	**0.4**	**0.0**	**0.7**	**1.9**	**0.4**	**0.3**	**2.5**	**0.0**	**0.0**	**0.0**	**0.0**

Veh_Tech	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX	SOx_IDLEX
All Other Buses-Dsl	0.0000	0.0001	0.0004	0.0002	0.0000		0.0002	0.0000	0.0001	0.0003	0.0000	0.0000
LDA-Dsl	0.0001	0.0001	0.0003	0.0001			0.0001	0.0000	0.0000	0.0002	0.0000	
LDT1-Dsl	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	
LDT2-Dsl	0.0001	0.0001	0.0001	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000	
LHD1-Dsl	0.0025	0.0165	0.0306	0.0107	0.0002		0.0108	0.0006	0.0058	0.0173	0.0013	0.0000
LHD2-Dsl	0.0009	0.0068	0.0114	0.0034	0.0001		0.0034	0.0002	0.0024	0.0061	0.0005	0.0000
MDV-Dsl	0.0003	0.0003	0.0009	0.0002			0.0002	0.0001	0.0001	0.0004	0.0001	
MH-Dsl	0.0001	0.0002	0.0007	0.0005			0.0005	0.0000	0.0001	0.0006	0.0000	
Motor Coach-Dsl	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0001	0.0000	0.0000
PTO-Dsl			0.0000	0.0000			0.0000			0.0000	0.0001	
SBUS-Dsl	0.0001	0.0004	0.0007	0.0002	0.0000		0.0002	0.0000	0.0001	0.0004	0.0001	0.0000
T6 CAIRP Class 4-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 5-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 6-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 7-Dsl	0.0001	0.0003	0.0005	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0001	0.0000
T6 Instate Delivery Class 4-Dsl	0.0000	0.0001	0.0002	0.0001	0.0000		0.0001	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Delivery Class 5-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Delivery Class 6-Dsl	0.0001	0.0004	0.0006	0.0001	0.0000		0.0001	0.0000	0.0001	0.0003	0.0001	0.0000
T6 Instate Delivery Class 7-Dsl	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Other Class 4-Dsl	0.0002	0.0006	0.0010	0.0003	0.0000		0.0003	0.0000	0.0002	0.0005	0.0001	0.0000
T6 Instate Other Class 5-Dsl	0.0004	0.0014	0.0020	0.0002	0.0000		0.0002	0.0001	0.0005	0.0008	0.0003	0.0000
T6 Instate Other Class 6-Dsl	0.0003	0.0013	0.0023	0.0006	0.0000		0.0007	0.0001	0.0004	0.0012	0.0003	0.0000
T6 Instate Other Class 7-Dsl	0.0002	0.0009	0.0013	0.0002	0.0000		0.0002	0.0001	0.0003	0.0005	0.0002	0.0000
T6 Instate Tractor Class 6-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Instate Tractor Class 7-Dsl	0.0002	0.0007	0.0011	0.0001	0.0000		0.0001	0.0000	0.0003	0.0004	0.0002	0.0000
T6 OOS Class 4-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 5-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 6-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 7-Dsl	0.0001	0.0002	0.0003	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0001	0.0000
T6 Public Class 4-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 5-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Public Class 6-Dsl	0.0000	0.0001	0.0002	0.0001	0.0000		0.0001	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Public Class 7-Dsl	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000	0.0000
T6 Utility Class 5-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T7 CAIRP Class 8-Dsl	0.0055	0.0114	0.0221	0.0047	0.0000		0.0047	0.0014	0.0040	0.0102	0.0022	0.0002
T7 NNOOS Class 8-Dsl	0.0066	0.0136	0.0259	0.0054	0.0000		0.0054	0.0017	0.0048	0.0118	0.0026	0.0002
T7 NOOS Class 8-Dsl	0.0024	0.0050	0.0096	0.0021	0.0000		0.0021	0.0006	0.0017	0.0044	0.0010	0.0001
T7 Other Port Class 8-Dsl	0.0001	0.0002	0.0004	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000	0.0000
T7 POAK Class 8-Dsl	0.0002	0.0006	0.0010	0.0001	0.0000		0.0001	0.0001	0.0002	0.0004	0.0001	0.0000
T7 POLA Class 8-Dsl	0.0004	0.0009	0.0014	0.0002	0.0000		0.0002	0.0001	0.0003	0.0006	0.0002	0.0000
T7 Public Class 8-Dsl	0.0004	0.0012	0.0021	0.0005	0.0000		0.0005	0.0001	0.0004	0.0010	0.0002	0.0000
T7 SWCV Class 8-Dsl	0.0003	0.0017	0.0021	0.0001	0.0000		0.0001	0.0001	0.0006	0.0008	0.0003	0.0000
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T7 Single Dump Class 8-Dsl	0.0002	0.0004	0.0008	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001	0.0000
T7 Single Other Class 8-Dsl	0.0010	0.0023	0.0039	0.0005	0.0000		0.0005	0.0003	0.0008	0.0016	0.0004	0.0000
T7 Tractor Class 8-Dsl	0.0036	0.0078	0.0139	0.0022	0.0000		0.0022	0.0009	0.0027	0.0059	0.0015	0.0001
T7 Utility Class 8-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Dsl	0.0000	0.0001	0.0001	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000	
	0.0	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**

Veh_Tech	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
All Other Buses-Dsl		0.0000	0.0006		0.3188	
LDA-Dsl		0.0000	0.0000		0.1717	
LDT1-Dsl		0.0000	0.0000		0.0039	
LDT2-Dsl		0.0000	0.0000		0.1739	
LHD1-Dsl		0.0013	0.0314		12.1	
LHD2-Dsl		0.0006	0.0123		5.21	
MDV-Dsl		0.0001	0.0001		1.35	
MH-Dsl		0.0000	0.0004		0.3420	
Motor Coach-Dsl		0.0000	0.0005		0.3976	
PTO-Dsl		0.0001	0.0016		1.31	
SBUS-Dsl		0.0001	0.0012		0.9088	
T6 CAIRP Class 4-Dsl		0.0000	0.0001		0.0368	
T6 CAIRP Class 5-Dsl		0.0000	0.0001		0.0506	
T6 CAIRP Class 6-Dsl		0.0000	0.0003		0.1294	
T6 CAIRP Class 7-Dsl		0.0001	0.0018		0.7626	
T6 Instate Delivery Class 4-Dsl		0.0000	0.0004		0.2004	
T6 Instate Delivery Class 5-Dsl		0.0000	0.0003		0.1409	
T6 Instate Delivery Class 6-Dsl		0.0001	0.0017		0.8579	
T6 Instate Delivery Class 7-Dsl		0.0000	0.0005		0.2527	
T6 Instate Other Class 4-Dsl		0.0001	0.0027		1.35	
T6 Instate Other Class 5-Dsl		0.0004	0.0069		3.35	
T6 Instate Other Class 6-Dsl		0.0003	0.0059		2.96	
T6 Instate Other Class 7-Dsl		0.0002	0.0044		2.05	
T6 Instate Tractor Class 6-Dsl		0.0000	0.0001		0.0548	
T6 Instate Tractor Class 7-Dsl		0.0002	0.0037		1.61	
T6 OOS Class 4-Dsl		0.0000	0.0000		0.0214	
T6 OOS Class 5-Dsl		0.0000	0.0001		0.0294	
T6 OOS Class 6-Dsl		0.0000	0.0002		0.0753	
T6 OOS Class 7-Dsl		0.0001	0.0012		0.5124	
T6 Public Class 4-Dsl		0.0000	0.0001		0.0970	
T6 Public Class 5-Dsl		0.0000	0.0003		0.1982	
T6 Public Class 6-Dsl		0.0000	0.0003		0.2489	
T6 Public Class 7-Dsl		0.0000	0.0006		0.4067	
T6 Utility Class 5-Dsl		0.0000	0.0001		0.0674	
T6 Utility Class 6-Dsl		0.0000	0.0000		0.0127	
T6 Utility Class 7-Dsl		0.0000	0.0000		0.0175	
T7 CAIRP Class 8-Dsl		0.0024	0.0338		22.5	
T7 NNOOS Class 8-Dsl		0.0028	0.0404		26.2	
T7 NOOS Class 8-Dsl		0.0010	0.0147		9.74	
T7 Other Port Class 8-Dsl		0.0000	0.0006		0.4331	
T7 POAK Class 8-Dsl		0.0001	0.0015		1.05	
T7 POLA Class 8-Dsl		0.0002	0.0022		1.58	
T7 Public Class 8-Dsl		0.0002	0.0014		1.76	
T7 SWCV Class 8-Dsl		0.0003	0.0010		2.87	
T7 Single Concrete/Transit Mix Class 8-Dsl		0.0000	0.0002		0.1258	
T7 Single Dump Class 8-Dsl		0.0001	0.0012		0.8609	
T7 Single Other Class 8-Dsl		0.0005	0.0062		4.33	
T7 Tractor Class 8-Dsl		0.0016	0.0220		14.8	
T7 Utility Class 8-Dsl		0.0000	0.0001		0.0821	
UBUS-Dsl		0.0000	0.0003		0.0816	
	0.0	**0.0**	**0.2**	**0.0**		

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-Dsl	All Other Buses - Dsl	71.2	3,115.9	3,115.9	0	633.3	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Dsl	LDA - Dsl	74.2	2,969.5	2,969.5	0	335.5	0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Dsl	LDT1 - Dsl	0.0906	3.59	3.59	0	0.4143	0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Dsl	LDT2 - Dsl	250.4	10,043.0	10,043.0	0	1,149.3	0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Dsl	LHD1 - Dsl	1,682.4	57,172.6	57,172.6	0	21,162.5	0.0066	0.0002
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Dsl	LHD2 - Dsl	871.2	27,713.3	27,713.3	0	10,958.1	0.0043	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Dsl	MDV - Dsl	451.8	16,837.3	16,837.3	0	2,002.3	0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Dsl	MH - Dsl	202.7	1,974.6	1,974.6	0	20.3	0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	Motor Coach-Dsl	Motor Coach - Dsl	20.4	2,570.9	2,570.9	0	468.2	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Dsl	PTO-Dsl		5,008.9	5,008.9	0		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Dsl	SBUS - Dsl	171.4	3,533.0	3,533.0	0	2,482.6	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	3.61	268.0	268.0	0	82.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	4.43	367.8	367.8	0	101.8	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	20.2	959.8	959.8	0	464.2	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	55.6	11,484.7	11,484.7	0	1,278.8	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	44.2	1,477.1	1,477.1	0	630.2	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	31.0	1,036.1	1,036.1	0	441.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	188.4	6,301.4	6,301.4	0	2,688.6	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	47.5	2,426.1	2,426.1	0	678.1	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	252.0	10,016.0	10,016.0	0	2,913.0	0.0001	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	626.0	24,896.0	24,896.0	0	7,236.7	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	555.7	22,077.4	22,077.4	0	6,423.5	0.0001	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	460.3	19,129.8	19,129.8	0	5,321.0	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	8.84	411.5	411.5	0	102.2	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	407.1	24,011.8	24,011.8	0	4,705.7	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	5.25	392.6	392.6	0	120.7	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	6.45	538.6	538.6	0	148.2	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	29.3	1,407.4	1,407.4	0	674.4	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	36.2	10,233.6	10,233.6	0	831.8	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	11.6	397.6	397.6	0	59.3	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	24.5	842.9	842.9	0	125.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	29.8	1,025.4	1,025.4	0	153.0	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	46.9	1,970.8	1,970.8	0	240.8	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	6.79	271.8	271.8	0	86.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	1.28	51.4	51.4	0	16.4	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	1.43	70.7	70.7	0	18.3	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	901.2	185,345.1	185,345.1	0	20,710.5	0.0027	0.0118
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	995.5	282,078.5	282,078.5	0	22,875.5	0.0039	0.0162
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	429.5	102,474.1	102,474.1	0	9,869.8	0.0015	0.0070
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	13.3	3,160.9	3,160.9	0	217.1	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	71.4	8,248.1	8,248.1	0	1,168.0	0.0001	0.0003
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	62.8	11,530.4	11,530.4	0	1,027.8	0.0002	0.0003
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	140.9	5,663.7	5,663.7	0	722.8	0.0002	0.0002
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	23.8	1,548.2	1,548.2	0	109.7	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	5.82	368.5	368.5	0	54.8	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	57.4	2,859.4	2,859.4	0	541.1	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	403.8	21,116.7	21,116.7	0	3,803.4	0.0003	0.0009
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	2,020.3	128,283.4	128,283.4	0	29,354.7	0.0016	0.0088
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	7.05	289.8	289.8	0	90.3	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Dsl	UBUS - Dsl	0.5986	43.2	43.2	0	2.39	0.0000	
								TOTALs	**11,762.3**	**1,022,903.3**	**1,022,903.3**	**0.0**	**164,671.5**	**0.0**	**0.0**

Veh_Tech	TOG_STREX	TOG_TOTEX	TOG_DIURN	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS
All Other Buses-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
LDA-Dsl		0.0000				0.0000	0.0000			0.0000			
LDT1-Dsl		0.0000				0.0000	0.0000			0.0000			
LDT2-Dsl		0.0001				0.0001	0.0001			0.0001			
LHD1-Dsl		0.0068				0.0068	0.0058	0.0002		0.0060			
LHD2-Dsl		0.0044				0.0044	0.0038	0.0001		0.0039			
MDV-Dsl		0.0001				0.0001	0.0001			0.0001			
MH-Dsl		0.0002				0.0002	0.0002			0.0002			
Motor Coach-Dsl		0.0001				0.0001	0.0000	0.0001		0.0001			
PTO-Dsl		0.0001				0.0001	0.0001			0.0001			
SBUS-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T6 CAIRP Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 7-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Instate Delivery Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Delivery Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Delivery Class 6-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T6 Instate Delivery Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Other Class 4-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Instate Other Class 5-Dsl		0.0003				0.0003	0.0001	0.0001		0.0003			
T6 Instate Other Class 6-Dsl		0.0003				0.0003	0.0001	0.0001		0.0002			
T6 Instate Other Class 7-Dsl		0.0003				0.0003	0.0001	0.0001		0.0002			
T6 Instate Tractor Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Tractor Class 7-Dsl		0.0003				0.0003	0.0002	0.0001		0.0002			
T6 OOS Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 7-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Public Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Public Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Public Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Public Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T7 CAIRP Class 8-Dsl		0.0145				0.0145	0.0023	0.0104		0.0127			
T7 NNOOS Class 8-Dsl		0.0201				0.0201	0.0035	0.0142		0.0177			
T7 NOOS Class 8-Dsl		0.0085				0.0085	0.0013	0.0061		0.0074			
T7 Other Port Class 8-Dsl		0.0001				0.0001	0.0000	0.0001		0.0001			
T7 POAK Class 8-Dsl		0.0004				0.0004	0.0001	0.0003		0.0004			
T7 POLA Class 8-Dsl		0.0004				0.0004	0.0001	0.0002		0.0004			
T7 Public Class 8-Dsl		0.0004				0.0004	0.0001	0.0002		0.0003			
T7 SWCV Class 8-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T7 Single Concrete/Transit Mix Class 8-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T7 Single Dump Class 8-Dsl		0.0002				0.0002	0.0000	0.0001		0.0002			
T7 Single Other Class 8-Dsl		0.0012				0.0012	0.0002	0.0008		0.0011			
T7 Tractor Class 8-Dsl		0.0104				0.0104	0.0014	0.0077		0.0091			
T7 Utility Class 8-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
UBUS-Dsl		0.0000				0.0000	0.0000			0.0000			
	0.0	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**

Veh_Tech	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX
All Other Buses-Dsl	0.0001	0.0004	0.0002		0.0006	0.0037	0.0001	0.0006	0.0056	0.0000	0.0000		0.0000
LDA-Dsl	0.0000	0.0003			0.0003	0.0000			0.0000	0.0000			0.0000
LDT1-Dsl	0.0000	0.0000			0.0000	0.0000			0.0000	0.0000			0.0000
LDT2-Dsl	0.0001	0.0012			0.0012	0.0003			0.0003	0.0000			0.0000
LHD1-Dsl	0.0108	0.0148	0.0017		0.0165	0.0186	0.0021		0.0341	0.0013	0.0001		0.0013
LHD2-Dsl	0.0066	0.0098	0.0009		0.0107	0.0149	0.0012		0.0238	0.0009	0.0000		0.0009
MDV-Dsl	0.0001	0.0022			0.0022	0.0003			0.0003	0.0000			0.0000
MH-Dsl	0.0002	0.0005			0.0005	0.0055			0.0055	0.0001			0.0001
Motor Coach-Dsl	0.0001	0.0001	0.0013		0.0014	0.0026	0.0004	0.0005	0.0058	0.0001	0.0000		0.0001
PTO-Dsl	0.0002	0.0010			0.0010	0.0139			0.0325	0.0000			0.0000
SBUS-Dsl	0.0001	0.0002	0.0013		0.0015	0.0011	0.0011	0.0015	0.0109	0.0000	0.0000		0.0000
T6 CAIRP Class 4-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000	0.0003	0.0000	0.0000		0.0000
T6 CAIRP Class 5-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000	0.0004	0.0000	0.0000		0.0000
T6 CAIRP Class 6-Dsl	0.0000	0.0000	0.0000		0.0001	0.0002	0.0000	0.0002	0.0015	0.0000	0.0000		0.0000
T6 CAIRP Class 7-Dsl	0.0001	0.0004	0.0001		0.0005	0.0024	0.0001	0.0005	0.0052	0.0001	0.0000		0.0001
T6 Instate Delivery Class 4-Dsl	0.0000	0.0001	0.0003		0.0004	0.0005	0.0003	0.0007	0.0051	0.0000	0.0000		0.0000
T6 Instate Delivery Class 5-Dsl	0.0000	0.0001	0.0002		0.0003	0.0004	0.0002	0.0005	0.0036	0.0000	0.0000		0.0000
T6 Instate Delivery Class 6-Dsl	0.0002	0.0004	0.0015		0.0018	0.0024	0.0012	0.0030	0.0219	0.0000	0.0000		0.0000
T6 Instate Delivery Class 7-Dsl	0.0001	0.0002	0.0004		0.0006	0.0016	0.0004	0.0009	0.0056	0.0000	0.0000		0.0000
T6 Instate Other Class 4-Dsl	0.0002	0.0005	0.0021		0.0026	0.0028	0.0017	0.0036	0.0277	0.0000	0.0000		0.0000
T6 Instate Other Class 5-Dsl	0.0006	0.0011	0.0052		0.0064	0.0070	0.0041	0.0091	0.0689	0.0001	0.0000		0.0001
T6 Instate Other Class 6-Dsl	0.0005	0.0010	0.0046		0.0056	0.0063	0.0037	0.0080	0.0612	0.0001	0.0000		0.0001
T6 Instate Other Class 7-Dsl	0.0004	0.0011	0.0038		0.0049	0.0087	0.0039	0.0083	0.0428	0.0001	0.0000		0.0001
T6 Instate Tractor Class 6-Dsl	0.0000	0.0000	0.0001		0.0001	0.0001	0.0001	0.0001	0.0010	0.0000	0.0000		0.0000
T6 Instate Tractor Class 7-Dsl	0.0003	0.0013	0.0034		0.0047	0.0096	0.0032	0.0069	0.0305	0.0001	0.0000		0.0001
T6 OOS Class 4-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000
T6 OOS Class 5-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000
T6 OOS Class 6-Dsl	0.0000	0.0000	0.0001		0.0001	0.0003	0.0001	0.0004	0.0009	0.0000	0.0000		0.0000
T6 OOS Class 7-Dsl	0.0001	0.0003	0.0001		0.0004	0.0026	0.0001	0.0006	0.0033	0.0001	0.0000		0.0001
T6 Public Class 4-Dsl	0.0000	0.0000	0.0001		0.0002	0.0002	0.0001	0.0001	0.0010	0.0000	0.0000		0.0000
T6 Public Class 5-Dsl	0.0000	0.0001	0.0003		0.0003	0.0004	0.0003	0.0002	0.0022	0.0000	0.0000		0.0000
T6 Public Class 6-Dsl	0.0000	0.0001	0.0004		0.0004	0.0004	0.0003	0.0002	0.0026	0.0000	0.0000		0.0000
T6 Public Class 7-Dsl	0.0001	0.0001	0.0006		0.0007	0.0008	0.0006	0.0004	0.0037	0.0000	0.0000		0.0000
T6 Utility Class 5-Dsl	0.0000	0.0000	0.0000		0.0001	0.0001	0.0000	0.0001	0.0007	0.0000	0.0000		0.0000
T6 Utility Class 6-Dsl	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000
T6 Utility Class 7-Dsl	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0002	0.0000	0.0000		0.0000
T7 CAIRP Class 8-Dsl	0.0163	0.0079	0.1532		0.1611	0.2473	0.0798	0.0361	0.5861	0.0061	0.0000		0.0061
T7 NNOOS Class 8-Dsl	0.0177	0.0117	0.2100		0.2217	0.4157	0.1679	0.0599	0.6435	0.0091	0.0001		0.0092
T7 NOOS Class 8-Dsl	0.0074	0.0044	0.0906		0.0950	0.1554	0.0725	0.0259	0.2537	0.0035	0.0000		0.0035
T7 Other Port Class 8-Dsl	0.0001	0.0002	0.0007		0.0010	0.0043	0.0004	0.0004	0.0075	0.0001	0.0000		0.0001
T7 POAK Class 8-Dsl	0.0004	0.0006	0.0040		0.0046	0.0117	0.0023	0.0024	0.0238	0.0002	0.0000		0.0002
T7 POLA Class 8-Dsl	0.0004	0.0009	0.0035		0.0044	0.0176	0.0021	0.0022	0.0296	0.0002	0.0000		0.0002
T7 Public Class 8-Dsl	0.0005	0.0009	0.0027		0.0035	0.0102	0.0018	0.0041	0.0323	0.0001	0.0000		0.0001
T7 SWCV Class 8-Dsl	0.0001	0.0001	0.0005		0.0006	0.0019	0.0004	0.0006	0.0038	0.0000	0.0000		0.0000
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000	0.0000	0.0002		0.0002	0.0003	0.0001	0.0001	0.0018	0.0000	0.0000		0.0000
T7 Single Dump Class 8-Dsl	0.0003	0.0002	0.0017		0.0019	0.0033	0.0009	0.0015	0.0138	0.0001	0.0000		0.0001
T7 Single Other Class 8-Dsl	0.0021	0.0012	0.0122		0.0134	0.0237	0.0065	0.0106	0.1051	0.0004	0.0000		0.0004
T7 Tractor Class 8-Dsl	0.0109	0.0067	0.1137		0.1204	0.1664	0.0680	0.1078	0.4988	0.0031	0.0000		0.0031
T7 Utility Class 8-Dsl	0.0000	0.0000	0.0001		0.0001	0.0003	0.0000	0.0004	0.0018	0.0000	0.0000		0.0000
UBUS-Dsl	0.0000	0.0000			0.0000	0.0000			0.0000	0.0000			0.0000
	0.1	**0.1**	**0.6**	**0.0**	**0.7**	**1.2**	**0.4**	**0.3**	**2.6**	**0.0**	**0.0**	**0.0**	**0.0**

Veh_Tech	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX	SOx_IDLEX
All Other Buses-Dsl	0.0000	0.0002	0.0002	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000
LDA-Dsl	0.0000	0.0000	0.0001	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	
LDT1-Dsl	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	
LDT2-Dsl	0.0001	0.0001	0.0002	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000	
LHD1-Dsl	0.0008	0.0049	0.0131	0.0012	0.0000		0.0013	0.0002	0.0017	0.0058	0.0004	0.0000
LHD2-Dsl	0.0004	0.0028	0.0074	0.0008	0.0000		0.0009	0.0001	0.0010	0.0034	0.0002	0.0000
MDV-Dsl	0.0001	0.0002	0.0003	0.0000			0.0000	0.0000	0.0001	0.0001	0.0001	
MH-Dsl	0.0000	0.0001	0.0002	0.0001			0.0001	0.0000	0.0000	0.0001	0.0000	
Motor Coach-Dsl	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000	0.0000
PTO-Dsl			0.0000	0.0000			0.0000			0.0000	0.0001	
SBUS-Dsl	0.0000	0.0002	0.0005	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000
T6 CAIRP Class 4-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 5-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 6-Dsl	0.0000	0.0000	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 CAIRP Class 7-Dsl	0.0002	0.0005	0.0010	0.0001	0.0000		0.0001	0.0000	0.0002	0.0004	0.0001	0.0000
T6 Instate Delivery Class 4-Dsl	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Delivery Class 5-Dsl	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Delivery Class 6-Dsl	0.0001	0.0003	0.0010	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0001	0.0000
T6 Instate Delivery Class 7-Dsl	0.0000	0.0001	0.0003	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Other Class 4-Dsl	0.0001	0.0005	0.0015	0.0000	0.0000		0.0000	0.0000	0.0002	0.0006	0.0001	0.0000
T6 Instate Other Class 5-Dsl	0.0003	0.0012	0.0038	0.0001	0.0000		0.0001	0.0001	0.0004	0.0014	0.0003	0.0000
T6 Instate Other Class 6-Dsl	0.0003	0.0011	0.0034	0.0001	0.0000		0.0001	0.0001	0.0004	0.0012	0.0002	0.0000
T6 Instate Other Class 7-Dsl	0.0003	0.0009	0.0024	0.0001	0.0000		0.0001	0.0001	0.0003	0.0009	0.0002	0.0000
T6 Instate Tractor Class 6-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Instate Tractor Class 7-Dsl	0.0003	0.0012	0.0020	0.0001	0.0000		0.0001	0.0001	0.0004	0.0007	0.0002	0.0000
T6 OOS Class 4-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 5-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 6-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 7-Dsl	0.0001	0.0005	0.0007	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001	0.0000
T6 Public Class 4-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 5-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 6-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Public Class 7-Dsl	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Utility Class 5-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T7 CAIRP Class 8-Dsl	0.0074	0.0167	0.0391	0.0058	0.0000		0.0059	0.0018	0.0059	0.0176	0.0025	0.0002
T7 NNOOS Class 8-Dsl	0.0112	0.0255	0.0459	0.0087	0.0001		0.0088	0.0028	0.0089	0.0205	0.0036	0.0002
T7 NOOS Class 8-Dsl	0.0041	0.0092	0.0169	0.0034	0.0000		0.0034	0.0010	0.0032	0.0076	0.0013	0.0001
T7 Other Port Class 8-Dsl	0.0001	0.0003	0.0006	0.0001	0.0000		0.0001	0.0000	0.0001	0.0003	0.0000	0.0000
T7 POAK Class 8-Dsl	0.0003	0.0009	0.0017	0.0001	0.0000		0.0001	0.0001	0.0003	0.0007	0.0001	0.0000
T7 POLA Class 8-Dsl	0.0005	0.0012	0.0023	0.0002	0.0000		0.0002	0.0001	0.0004	0.0009	0.0002	0.0000
T7 Public Class 8-Dsl	0.0002	0.0007	0.0017	0.0001	0.0000		0.0001	0.0001	0.0002	0.0006	0.0001	0.0000
T7 SWCV Class 8-Dsl	0.0001	0.0004	0.0007	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0001	0.0000
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T7 Single Dump Class 8-Dsl	0.0001	0.0003	0.0009	0.0001	0.0000		0.0001	0.0000	0.0001	0.0004	0.0000	0.0000
T7 Single Other Class 8-Dsl	0.0008	0.0020	0.0068	0.0004	0.0000		0.0004	0.0002	0.0007	0.0027	0.0003	0.0000
T7 Tractor Class 8-Dsl	0.0051	0.0122	0.0247	0.0029	0.0000		0.0030	0.0013	0.0043	0.0103	0.0017	0.0001
T7 Utility Class 8-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Dsl	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	
	0.0	**0.1**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**

Veh_Tech	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
All Other Buses-Dsl		0.0000	0.0007		0.3168	
LDA-Dsl		0.0000	0.0000		0.0517	
LDT1-Dsl		0.0000	0.0000		0.0001	
LDT2-Dsl		0.0000	0.0000		0.2424	
LHD1-Dsl		0.0004	0.0136		3.41	
LHD2-Dsl		0.0002	0.0064		1.95	
MDV-Dsl		0.0001	0.0001		0.5368	
MH-Dsl		0.0000	0.0005		0.2119	
Motor Coach-Dsl		0.0000	0.0006		0.4024	
PTO-Dsl		0.0001	0.0012		0.8531	
SBUS-Dsl		0.0000	0.0009		0.3876	
T6 CAIRP Class 4-Dsl		0.0000	0.0001		0.0269	
T6 CAIRP Class 5-Dsl		0.0000	0.0001		0.0369	
T6 CAIRP Class 6-Dsl		0.0000	0.0002		0.0966	
T6 CAIRP Class 7-Dsl		0.0001	0.0028		1.01	
T6 Instate Delivery Class 4-Dsl		0.0000	0.0004		0.1582	
T6 Instate Delivery Class 5-Dsl		0.0000	0.0003		0.1110	
T6 Instate Delivery Class 6-Dsl		0.0001	0.0015		0.6748	
T6 Instate Delivery Class 7-Dsl		0.0000	0.0006		0.2574	
T6 Instate Other Class 4-Dsl		0.0001	0.0024		1.04	
T6 Instate Other Class 5-Dsl		0.0003	0.0060		2.58	
T6 Instate Other Class 6-Dsl		0.0002	0.0054		2.29	
T6 Instate Other Class 7-Dsl		0.0002	0.0046		1.98	
T6 Instate Tractor Class 6-Dsl		0.0000	0.0001		0.0423	
T6 Instate Tractor Class 7-Dsl		0.0002	0.0058		2.22	
T6 OOS Class 4-Dsl		0.0000	0.0001		0.0370	
T6 OOS Class 5-Dsl		0.0000	0.0001		0.0507	
T6 OOS Class 6-Dsl		0.0000	0.0003		0.1330	
T6 OOS Class 7-Dsl		0.0001	0.0025		0.8632	
T6 Public Class 4-Dsl		0.0000	0.0001		0.0454	
T6 Public Class 5-Dsl		0.0000	0.0002		0.0965	
T6 Public Class 6-Dsl		0.0000	0.0002		0.1170	
T6 Public Class 7-Dsl		0.0000	0.0005		0.2192	
T6 Utility Class 5-Dsl		0.0000	0.0001		0.0281	
T6 Utility Class 6-Dsl		0.0000	0.0000		0.0053	
T6 Utility Class 7-Dsl		0.0000	0.0000		0.0073	
T7 CAIRP Class 8-Dsl		0.0027	0.0449		25.1	
T7 NNOOS Class 8-Dsl		0.0038	0.0684		36.3	
T7 NOOS Class 8-Dsl		0.0014	0.0249		13.3	
T7 Other Port Class 8-Dsl		0.0000	0.0008		0.4352	
T7 POAK Class 8-Dsl		0.0001	0.0020		1.16	
T7 POLA Class 8-Dsl		0.0002	0.0028		1.60	
T7 Public Class 8-Dsl		0.0001	0.0013		0.9241	
T7 SWCV Class 8-Dsl		0.0001	0.0003		0.5137	
T7 Single Concrete/Transit Mix Class 8-Dsl		0.0000	0.0001		0.0545	
T7 Single Dump Class 8-Dsl		0.0000	0.0007		0.4359	
T7 Single Other Class 8-Dsl		0.0003	0.0051		3.19	
T7 Tractor Class 8-Dsl		0.0018	0.0311		17.3	
T7 Utility Class 8-Dsl		0.0000	0.0001		0.0447	
UBUS-Dsl		0.0000	0.0000		0.0028	
	0.0	**0.0**	**0.2**	**0.0**	**122.6**	

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-Dsl	All Other Buses - Dsl	66.1	2,892.8	2,892.8	0	587.9	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Dsl	LDA - Dsl	68.9	2,756.8	2,756.8	0	311.5	0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Dsl	LDT1 - Dsl	0.0841	3.34	3.34	0	0.3846	0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Dsl	LDT2 - Dsl	232.4	9,323.7	9,323.7	0	1,067.0	0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Dsl	LHD1 - Dsl	1,561.9	53,077.8	53,077.8	0	19,646.8	0.0061	0.0002
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Dsl	LHD2 - Dsl	808.8	25,728.5	25,728.5	0	10,173.3	0.0040	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Dsl	MDV - Dsl	419.5	15,631.4	15,631.4	0	1,858.9	0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Dsl	MH - Dsl	188.1	1,833.2	1,833.2	0	18.8	0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	Motor Coach-Dsl	Motor Coach - Dsl	18.9	2,386.7	2,386.7	0	434.6	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Dsl	PTO-Dsl		4,650.2	4,650.2	0		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Dsl	SBUS - Dsl	159.2	3,280.0	3,280.0	0	2,304.8	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	3.35	248.8	248.8	0	77.0	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	4.11	341.5	341.5	0	94.5	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	18.8	891.0	891.0	0	430.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	51.7	10,662.1	10,662.1	0	1,187.2	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	41.0	1,371.3	1,371.3	0	585.1	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	28.7	961.8	961.8	0	410.2	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	174.9	5,850.1	5,850.1	0	2,496.1	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	44.1	2,252.4	2,252.4	0	629.5	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	233.9	9,298.6	9,298.6	0	2,704.3	0.0001	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	581.2	23,112.9	23,112.9	0	6,718.4	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	515.9	20,496.2	20,496.2	0	5,963.4	0.0001	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	427.3	17,759.7	17,759.7	0	4,939.9	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	8.21	382.0	382.0	0	94.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	377.9	22,292.0	22,292.0	0	4,368.7	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	4.87	364.5	364.5	0	112.0	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	5.99	500.0	500.0	0	137.5	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	27.2	1,306.6	1,306.6	0	626.1	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	33.6	9,500.6	9,500.6	0	772.2	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	10.7	369.1	369.1	0	55.0	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	22.8	782.5	782.5	0	116.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	27.7	951.9	951.9	0	142.1	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	43.6	1,829.7	1,829.7	0	223.5	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	6.30	252.4	252.4	0	80.7	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	1.19	47.7	47.7	0	15.2	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	1.33	65.7	65.7	0	17.0	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	836.7	172,070.3	172,070.3	0	19,227.2	0.0025	0.0110
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	924.2	261,875.4	261,875.4	0	21,237.1	0.0037	0.0150
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	398.7	95,134.7	95,134.7	0	9,162.9	0.0014	0.0065
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	12.3	2,934.6	2,934.6	0	201.6	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	66.3	7,657.4	7,657.4	0	1,084.3	0.0001	0.0003
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	58.3	10,704.6	10,704.6	0	954.2	0.0001	0.0003
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	130.8	5,258.0	5,258.0	0	671.1	0.0002	0.0002
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	22.1	1,437.3	1,437.3	0	101.8	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	5.40	342.1	342.1	0	50.9	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	53.3	2,654.6	2,654.6	0	502.3	0.0000	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	374.8	19,604.3	19,604.3	0	3,530.9	0.0002	0.0009
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1,875.6	119,095.4	119,095.4	0	27,252.2	0.0015	0.0081
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	6.55	269.1	269.1	0	83.8	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Dsl	UBUS - Dsl	0.5557	40.1	40.1	0	2.22	0.0000	
								TOTALs	**10,919.9**	**949,640.6**	**949,640.6**	**0.0**	**152,877.3**	**0.0**	**0.0**

Veh_Tech	TOG_STREX	TOG_TOTEX	TOG_DIURN	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS
All Other Buses-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
LDA-Dsl		0.0000				0.0000	0.0000			0.0000			
LDT1-Dsl		0.0000				0.0000	0.0000			0.0000			
LDT2-Dsl		0.0001				0.0001	0.0001			0.0001			
LHD1-Dsl		0.0063				0.0063	0.0054	0.0002		0.0055			
LHD2-Dsl		0.0041				0.0041	0.0035	0.0001		0.0036			
MDV-Dsl		0.0001				0.0001	0.0001			0.0001			
MH-Dsl		0.0002				0.0002	0.0002			0.0002			
Motor Coach-Dsl		0.0001				0.0001	0.0000	0.0001		0.0001			
PTO-Dsl		0.0001				0.0001	0.0001			0.0001			
SBUS-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T6 CAIRP Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 CAIRP Class 7-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Instate Delivery Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Delivery Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Delivery Class 6-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T6 Instate Delivery Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Other Class 4-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Instate Other Class 5-Dsl		0.0003				0.0003	0.0001	0.0001		0.0003			
T6 Instate Other Class 6-Dsl		0.0003				0.0003	0.0001	0.0001		0.0002			
T6 Instate Other Class 7-Dsl		0.0003				0.0003	0.0001	0.0001		0.0002			
T6 Instate Tractor Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Instate Tractor Class 7-Dsl		0.0003				0.0003	0.0002	0.0001		0.0002			
T6 OOS Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 OOS Class 7-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T6 Public Class 4-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Public Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Public Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Public Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 5-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 6-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T6 Utility Class 7-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T7 CAIRP Class 8-Dsl		0.0134				0.0134	0.0022	0.0096		0.0118			
T7 NNOOS Class 8-Dsl		0.0187				0.0187	0.0032	0.0132		0.0164			
T7 NOOS Class 8-Dsl		0.0079				0.0079	0.0012	0.0057		0.0069			
T7 Other Port Class 8-Dsl		0.0001				0.0001	0.0000	0.0000		0.0001			
T7 POAK Class 8-Dsl		0.0004				0.0004	0.0001	0.0002		0.0003			
T7 POLA Class 8-Dsl		0.0004				0.0004	0.0001	0.0002		0.0003			
T7 Public Class 8-Dsl		0.0004				0.0004	0.0001	0.0002		0.0003			
T7 SWCV Class 8-Dsl		0.0001				0.0001	0.0001	0.0000		0.0001			
T7 Single Concrete/Transit Mix Class 8-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
T7 Single Dump Class 8-Dsl		0.0002				0.0002	0.0000	0.0001		0.0001			
T7 Single Other Class 8-Dsl		0.0011				0.0011	0.0002	0.0008		0.0010			
T7 Tractor Class 8-Dsl		0.0097				0.0097	0.0013	0.0071		0.0085			
T7 Utility Class 8-Dsl		0.0000				0.0000	0.0000	0.0000		0.0000			
UBUS-Dsl		0.0000				0.0000	0.0000			0.0000			
	0.0	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**

Veh_Tech	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX
All Other Buses-Dsl	0.0001	0.0004	0.0002		0.0005	0.0034	0.0001	0.0006	0.0052	0.0000	0.0000		0.0000
LDA-Dsl	0.0000	0.0003			0.0003	0.0000			0.0000	0.0000			0.0000
LDT1-Dsl	0.0000	0.0000			0.0000	0.0000			0.0000	0.0000			0.0000
LDT2-Dsl	0.0001	0.0011			0.0011	0.0003			0.0003	0.0000			0.0000
LHD1-Dsl	0.0101	0.0137	0.0016		0.0153	0.0173	0.0019		0.0316	0.0012	0.0000		0.0012
LHD2-Dsl	0.0062	0.0091	0.0008		0.0099	0.0138	0.0011		0.0221	0.0008	0.0000		0.0008
MDV-Dsl	0.0001	0.0021			0.0021	0.0003			0.0003	0.0000			0.0000
MH-Dsl	0.0002	0.0005			0.0005	0.0051			0.0051	0.0000			0.0000
Motor Coach-Dsl	0.0001	0.0001	0.0012		0.0013	0.0024	0.0004	0.0005	0.0054	0.0001	0.0000		0.0001
PTO-Dsl	0.0001	0.0009			0.0009	0.0129			0.0301	0.0000			0.0000
SBUS-Dsl	0.0001	0.0002	0.0012		0.0014	0.0010	0.0010	0.0014	0.0101	0.0000	0.0000		0.0000
T6 CAIRP Class 4-Dsl	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0000		0.0000
T6 CAIRP Class 5-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000	0.0004	0.0000	0.0000		0.0000
T6 CAIRP Class 6-Dsl	0.0000	0.0000	0.0000		0.0001	0.0002	0.0000	0.0002	0.0014	0.0000	0.0000		0.0000
T6 CAIRP Class 7-Dsl	0.0001	0.0003	0.0001		0.0005	0.0022	0.0001	0.0005	0.0049	0.0001	0.0000		0.0001
T6 Instate Delivery Class 4-Dsl	0.0000	0.0001	0.0003		0.0004	0.0005	0.0003	0.0006	0.0047	0.0000	0.0000		0.0000
T6 Instate Delivery Class 5-Dsl	0.0000	0.0001	0.0002		0.0003	0.0004	0.0002	0.0005	0.0033	0.0000	0.0000		0.0000
T6 Instate Delivery Class 6-Dsl	0.0002	0.0003	0.0014		0.0017	0.0022	0.0011	0.0028	0.0203	0.0000	0.0000		0.0000
T6 Instate Delivery Class 7-Dsl	0.0000	0.0002	0.0003		0.0005	0.0015	0.0003	0.0009	0.0052	0.0000	0.0000		0.0000
T6 Instate Other Class 4-Dsl	0.0002	0.0004	0.0020		0.0024	0.0026	0.0015	0.0034	0.0257	0.0000	0.0000		0.0000
T6 Instate Other Class 5-Dsl	0.0006	0.0010	0.0049		0.0059	0.0065	0.0038	0.0084	0.0639	0.0001	0.0000		0.0001
T6 Instate Other Class 6-Dsl	0.0005	0.0009	0.0043		0.0052	0.0059	0.0034	0.0075	0.0568	0.0001	0.0000		0.0001
T6 Instate Other Class 7-Dsl	0.0004	0.0010	0.0036		0.0045	0.0081	0.0036	0.0077	0.0397	0.0001	0.0000		0.0001
T6 Instate Tractor Class 6-Dsl	0.0000	0.0000	0.0001		0.0001	0.0001	0.0001	0.0001	0.0009	0.0000	0.0000		0.0000
T6 Instate Tractor Class 7-Dsl	0.0003	0.0012	0.0032		0.0043	0.0089	0.0030	0.0064	0.0283	0.0001	0.0000		0.0001
T6 OOS Class 4-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000
T6 OOS Class 5-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000
T6 OOS Class 6-Dsl	0.0000	0.0000	0.0001		0.0001	0.0003	0.0001	0.0004	0.0008	0.0000	0.0000		0.0000
T6 OOS Class 7-Dsl	0.0001	0.0003	0.0001		0.0004	0.0024	0.0001	0.0005	0.0030	0.0001	0.0000		0.0001
T6 Public Class 4-Dsl	0.0000	0.0000	0.0001		0.0001	0.0002	0.0001	0.0001	0.0009	0.0000	0.0000		0.0000
T6 Public Class 5-Dsl	0.0000	0.0000	0.0003		0.0003	0.0004	0.0003	0.0002	0.0020	0.0000	0.0000		0.0000
T6 Public Class 6-Dsl	0.0000	0.0001	0.0003		0.0004	0.0004	0.0003	0.0002	0.0024	0.0000	0.0000		0.0000
T6 Public Class 7-Dsl	0.0000	0.0001	0.0005		0.0006	0.0007	0.0005	0.0004	0.0034	0.0000	0.0000		0.0000
T6 Utility Class 5-Dsl	0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001	0.0006	0.0000	0.0000		0.0000
T6 Utility Class 6-Dsl	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000
T6 Utility Class 7-Dsl	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000
T7 CAIRP Class 8-Dsl	0.0151	0.0073	0.1422		0.1495	0.2296	0.0741	0.0335	0.5441	0.0056	0.0000		0.0057
T7 NNOOS Class 8-Dsl	0.0164	0.0109	0.1949		0.2058	0.3859	0.1559	0.0556	0.5974	0.0085	0.0001		0.0085
T7 NOOS Class 8-Dsl	0.0069	0.0041	0.0841		0.0882	0.1443	0.0673	0.0240	0.2355	0.0033	0.0000		0.0033
T7 Other Port Class 8-Dsl	0.0001	0.0002	0.0007		0.0009	0.0040	0.0004	0.0004	0.0070	0.0001	0.0000		0.0001
T7 POAK Class 8-Dsl	0.0004	0.0005	0.0037		0.0042	0.0109	0.0021	0.0022	0.0221	0.0001	0.0000		0.0001
T7 POLA Class 8-Dsl	0.0004	0.0008	0.0032		0.0041	0.0163	0.0020	0.0020	0.0275	0.0002	0.0000		0.0002
T7 Public Class 8-Dsl	0.0005	0.0008	0.0025		0.0033	0.0095	0.0017	0.0038	0.0300	0.0001	0.0000		0.0001
T7 SWCV Class 8-Dsl	0.0001	0.0001	0.0005		0.0006	0.0017	0.0004	0.0005	0.0035	0.0000	0.0000		0.0000
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000	0.0000	0.0002		0.0002	0.0003	0.0001	0.0001	0.0017	0.0000	0.0000		0.0000
T7 Single Dump Class 8-Dsl	0.0003	0.0002	0.0016		0.0018	0.0031	0.0008	0.0014	0.0128	0.0000	0.0000		0.0001
T7 Single Other Class 8-Dsl	0.0019	0.0011	0.0114		0.0125	0.0220	0.0060	0.0098	0.0976	0.0004	0.0000		0.0004
T7 Tractor Class 8-Dsl	0.0101	0.0062	0.1056		0.1118	0.1545	0.0632	0.1000	0.4631	0.0028	0.0000		0.0029
T7 Utility Class 8-Dsl	0.0000	0.0000	0.0001		0.0001	0.0003	0.0000	0.0004	0.0017	0.0000	0.0000		0.0000
UBUS-Dsl	0.0000	0.0000			0.0000	0.0000			0.0000	0.0000			0.0000
	0.1	**0.1**	**0.6**	**0.0**	**0.6**	**1.1**	**0.4**	**0.3**	**2.4**	**0.0**	**0.0**	**0.0**	**0.0**

Veh_Tech	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX	SOx_IDLEX
All Other Buses-Dsl	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000
LDA-Dsl	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	
LDT1-Dsl	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	
LDT2-Dsl	0.0001	0.0001	0.0002	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000	
LHD1-Dsl	0.0007	0.0046	0.0122	0.0011	0.0000		0.0012	0.0002	0.0016	0.0054	0.0003	0.0000
LHD2-Dsl	0.0003	0.0026	0.0068	0.0008	0.0000		0.0008	0.0001	0.0009	0.0032	0.0002	0.0000
MDV-Dsl	0.0001	0.0001	0.0003	0.0000			0.0000	0.0000	0.0001	0.0001	0.0001	
MH-Dsl	0.0000	0.0001	0.0002	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000	
Motor Coach-Dsl	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0001	0.0000	0.0000
PTO-Dsl			0.0000	0.0000			0.0000			0.0000	0.0001	
SBUS-Dsl	0.0000	0.0002	0.0004	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000
T6 CAIRP Class 4-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 5-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 6-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 CAIRP Class 7-Dsl	0.0001	0.0005	0.0009	0.0001	0.0000		0.0001	0.0000	0.0002	0.0004	0.0001	0.0000
T6 Instate Delivery Class 4-Dsl	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Delivery Class 5-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Delivery Class 6-Dsl	0.0001	0.0003	0.0009	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0001	0.0000
T6 Instate Delivery Class 7-Dsl	0.0000	0.0001	0.0003	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Instate Other Class 4-Dsl	0.0001	0.0005	0.0014	0.0000	0.0000		0.0000	0.0000	0.0002	0.0005	0.0001	0.0000
T6 Instate Other Class 5-Dsl	0.0003	0.0011	0.0036	0.0001	0.0000		0.0001	0.0001	0.0004	0.0013	0.0002	0.0000
T6 Instate Other Class 6-Dsl	0.0003	0.0010	0.0032	0.0001	0.0000		0.0001	0.0001	0.0004	0.0011	0.0002	0.0000
T6 Instate Other Class 7-Dsl	0.0002	0.0009	0.0022	0.0001	0.0000		0.0001	0.0001	0.0003	0.0008	0.0002	0.0000
T6 Instate Tractor Class 6-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Instate Tractor Class 7-Dsl	0.0003	0.0011	0.0019	0.0001	0.0000		0.0001	0.0001	0.0004	0.0007	0.0002	0.0000
T6 OOS Class 4-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 5-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 6-Dsl	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 7-Dsl	0.0001	0.0004	0.0006	0.0001	0.0000		0.0001	0.0000	0.0002	0.0002	0.0001	0.0000
T6 Public Class 4-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 5-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 6-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 7-Dsl	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000
T6 Utility Class 5-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Dsl	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T7 CAIRP Class 8-Dsl	0.0068	0.0155	0.0363	0.0054	0.0000		0.0054	0.0017	0.0054	0.0163	0.0023	0.0002
T7 NNOOS Class 8-Dsl	0.0104	0.0236	0.0426	0.0081	0.0001		0.0082	0.0026	0.0083	0.0190	0.0033	0.0002
T7 NOOS Class 8-Dsl	0.0038	0.0086	0.0157	0.0031	0.0000		0.0031	0.0009	0.0030	0.0071	0.0012	0.0001
T7 Other Port Class 8-Dsl	0.0001	0.0003	0.0006	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000	0.0000
T7 POAK Class 8-Dsl	0.0003	0.0008	0.0015	0.0001	0.0000		0.0001	0.0001	0.0003	0.0006	0.0001	0.0000
T7 POLA Class 8-Dsl	0.0004	0.0011	0.0021	0.0002	0.0000		0.0002	0.0001	0.0004	0.0008	0.0002	0.0000
T7 Public Class 8-Dsl	0.0002	0.0006	0.0016	0.0000	0.0000		0.0001	0.0001	0.0002	0.0006	0.0001	0.0000
T7 SWCV Class 8-Dsl	0.0001	0.0003	0.0006	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T7 Single Dump Class 8-Dsl	0.0001	0.0003	0.0008	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0000	0.0000
T7 Single Other Class 8-Dsl	0.0008	0.0019	0.0063	0.0003	0.0000		0.0003	0.0002	0.0007	0.0025	0.0003	0.0000
T7 Tractor Class 8-Dsl	0.0047	0.0113	0.0230	0.0027	0.0000		0.0028	0.0012	0.0040	0.0096	0.0016	0.0001
T7 Utility Class 8-Dsl	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Dsl	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	
	0.0	**0.1**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**

Veh_Tech	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
All Other Buses-Dsl		0.0000	0.0007		0.2941	
LDA-Dsl		0.0000	0.0000		0.0484	
LDT1-Dsl		0.0000	0.0000		0.0001	
LDT2-Dsl		0.0000	0.0000		0.2267	
LHD1-Dsl		0.0003	0.0126		3.17	
LHD2-Dsl		0.0002	0.0059		1.81	
MDV-Dsl		0.0001	0.0001		0.5022	
MH-Dsl		0.0000	0.0004		0.1967	
Motor Coach-Dsl		0.0000	0.0006		0.3736	
PTO-Dsl		0.0001	0.0011		0.7920	
SBUS-Dsl		0.0000	0.0008		0.3599	
T6 CAIRP Class 4-Dsl		0.0000	0.0001		0.0249	
T6 CAIRP Class 5-Dsl		0.0000	0.0001		0.0342	
T6 CAIRP Class 6-Dsl		0.0000	0.0002		0.0896	
T6 CAIRP Class 7-Dsl		0.0001	0.0026		0.9413	
T6 Instate Delivery Class 4-Dsl		0.0000	0.0003		0.1468	
T6 Instate Delivery Class 5-Dsl		0.0000	0.0002		0.1030	
T6 Instate Delivery Class 6-Dsl		0.0001	0.0014		0.6265	
T6 Instate Delivery Class 7-Dsl		0.0000	0.0005		0.2390	
T6 Instate Other Class 4-Dsl		0.0001	0.0023		0.9629	
T6 Instate Other Class 5-Dsl		0.0003	0.0056		2.39	
T6 Instate Other Class 6-Dsl		0.0002	0.0050		2.12	
T6 Instate Other Class 7-Dsl		0.0002	0.0043		1.84	
T6 Instate Tractor Class 6-Dsl		0.0000	0.0001		0.0393	
T6 Instate Tractor Class 7-Dsl		0.0002	0.0054		2.06	
T6 OOS Class 4-Dsl		0.0000	0.0001		0.0343	
T6 OOS Class 5-Dsl		0.0000	0.0001		0.0471	
T6 OOS Class 6-Dsl		0.0000	0.0003		0.1234	
T6 OOS Class 7-Dsl		0.0001	0.0023		0.8014	
T6 Public Class 4-Dsl		0.0000	0.0001		0.0421	
T6 Public Class 5-Dsl		0.0000	0.0002		0.0896	
T6 Public Class 6-Dsl		0.0000	0.0002		0.1086	
T6 Public Class 7-Dsl		0.0000	0.0004		0.2035	
T6 Utility Class 5-Dsl		0.0000	0.0001		0.0261	
T6 Utility Class 6-Dsl		0.0000	0.0000		0.0049	
T6 Utility Class 7-Dsl		0.0000	0.0000		0.0067	
T7 CAIRP Class 8-Dsl		0.0025	0.0417		23.3	
T7 NNOOS Class 8-Dsl		0.0036	0.0635		33.7	
T7 NOOS Class 8-Dsl		0.0013	0.0231		12.4	
T7 Other Port Class 8-Dsl		0.0000	0.0007		0.4041	
T7 POAK Class 8-Dsl		0.0001	0.0019		1.07	
T7 POLA Class 8-Dsl		0.0002	0.0026		1.48	
T7 Public Class 8-Dsl		0.0001	0.0012		0.8579	
T7 SWCV Class 8-Dsl		0.0001	0.0003		0.4769	
T7 Single Concrete/Transit Mix Class 8-Dsl		0.0000	0.0001		0.0506	
T7 Single Dump Class 8-Dsl		0.0000	0.0006		0.4046	
T7 Single Other Class 8-Dsl		0.0003	0.0048		2.97	
T7 Tractor Class 8-Dsl		0.0017	0.0289		16.1	
T7 Utility Class 8-Dsl		0.0000	0.0001		0.0415	
UBUS-Dsl		0.0000	0.0000		0.0026	
	0.0	**0.0**	**0.2**	**0.0**		

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_TOTEX	TOG_DIURN
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	All Vehicles	All Vehicles	262,110.1	10,662,600.5	10,282,135.1	380,465.4	1,372,278.3	0.3775	0.0417	0.6406	1.06	0.4900
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	All Other Buses-Dsl	All Other Buses - Dsl	57.0	2,851.3	2,851.3	0	506.9	0.0007	0.0000		0.0008	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	All Other Buses-NG	All Other Buses - Oth	2.15	119.2	119.2	0	19.2	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDA-Dsl	LDA - Dsl	236.7	7,495.8	7,495.8	0	989.5	0.0002			0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDA-Elec	LDA - Oth	4,885.2	248,360.1	0	248,360.1	24,449.5				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDA-Gas	LDA - Gas	111,383.1	4,639,926.0	4,639,926.0	0	514,145.5	0.0544		0.2188	0.2731	0.1696
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDA-Phe	LDA - Gas	3,139.8	154,344.9	75,313.7	79,031.2	12,983.2	0.0003		0.0031	0.0034	0.0015
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT1-Dsl	LDT1 - Dsl	6.01	98.1	98.1	0	17.0	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT1-Elec	LDT1 - Oth	17.2	864.7	0	864.7	85.4				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT1-Gas	LDT1 - Gas	10,292.6	344,058.7	344,058.7	0	43,310.6	0.0257		0.0481	0.0737	0.0450
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT1-Phe	LDT1 - Gas	15.2	818.6	356.2	462.4	62.8	0.0000		0.0000	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT2-Dsl	LDT2 - Dsl	133.8	5,914.1	5,914.1	0	637.3	0.0001			0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT2-Elec	LDT2 - Oth	330.3	12,206.2	0	12,206.2	1,679.7				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT2-Gas	LDT2 - Gas	49,509.9	2,010,473.4	2,010,473.4	0	228,341.9	0.0414		0.1303	0.1717	0.0903
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LDT2-Phe	LDT2 - Gas	405.9	20,812.4	9,509.0	11,303.5	1,678.3	0.0000		0.0004	0.0004	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD1-Dsl	LHD1 - Dsl	5,458.1	192,154.8	192,154.8	0	68,655.8	0.0548	0.0008		0.0555	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD1-Elec	LHD1 - Oth	28.4	2,039.5	0	2,039.5	397.4				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD1-Gas	LHD1 - Gas	4,841.8	173,650.8	173,650.8	0	72,136.2	0.0157	0.0033	0.0162	0.0352	0.0172
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD2-Dsl	LHD2 - Dsl	1,887.1	68,212.2	68,212.2	0	23,737.1	0.0175	0.0003		0.0178	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD2-Elec	LHD2 - Oth	7.22	493.0	0	493.0	95.7				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	LHD2-Gas	LHD2 - Gas	733.0	25,431.5	25,431.5	0	10,920.0	0.0006	0.0005	0.0024	0.0035	0.0025
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MCY-Gas	MCY - Gas	5,735.3	31,720.1	31,720.1	0	11,470.6	0.0519		0.0245	0.0764	0.0280
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MDV-Dsl	MDV - Dsl	833.0	32,613.8	32,613.8	0	3,834.5	0.0005			0.0005	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MDV-Elec	MDV - Oth	365.2	13,466.0	0	13,466.0	1,856.3				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MDV-Gas	MDV - Gas	52,524.9	1,927,522.8	1,927,522.8	0	234,605.9	0.0580		0.1938	0.2519	0.1308
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MDV-Phe	MDV - Gas	320.1	15,345.6	7,352.9	7,992.7	1,323.6	0.0000		0.0003	0.0003	0.0001
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MH-Dsl	MH - Dsl	375.6	3,219.9	3,219.9	0	37.6	0.0006			0.0006	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	MH-Gas	MH - Gas	621.2	5,567.1	5,567.1	0	62.1	0.0005		0.0000	0.0005	0.0031
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	Motor Coach-Dsl	Motor Coach - Dsl	16.5	2,205.7	2,205.7	0	379.1	0.0000	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	OBUS-Elec	OBUS - Oth	0.3822	34.2	0	34.2	7.65				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	OBUS-Gas	OBUS - Gas	89.4	3,631.6	3,631.6	0	1,789.6	0.0005	0.0001	0.0005	0.0011	0.0004
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	PTO-Dsl	PTO-Dsl		6,444.7	6,444.7	0		0.0002			0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	PTO-Elec	PTO-Oth		61.3	0	61.3					0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	SBUS-Dsl	SBUS - Dsl	344.0	7,568.5	7,568.5	0	4,981.6	0.0006	0.0001		0.0007	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	SBUS-Elec	SBUS - Oth	0.4286	69.6	0	69.6	33.9				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	SBUS-Gas	SBUS - Gas	95.9	5,128.3	5,128.3	0	383.6	0.0003	0.0016	0.0002	0.0021	0.0003
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	SBUS-NG	SBUS-Oth	62.0	1,561.1	1,561.1	0	898.3	0.0049	0.0010		0.0058	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	4.95	331.6	331.6	0	113.7	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	0.0628	5.13	0	5.13	1.44				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	6.55	455.7	455.7	0	150.5	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	0.0727	6.28	0	6.28	1.67				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	22.2	1,182.6	1,182.6	0	509.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	0.4095	24.5	0	24.5	9.41				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	36.6	7,497.1	7,497.1	0	841.8	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	0.3486	74.3	0	74.3	8.01				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	49.3	1,664.2	1,664.2	0	703.4	0.0002	0.0000		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	0.4930	20.1	0	20.1	7.03				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	34.4	1,171.6	1,171.6	0	491.5	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	0.2812	11.3	0	11.3	4.01				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	210.5	7,123.8	7,123.8	0	3,004.0	0.0004	0.0001		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	1.80	71.4	0	71.4	25.7				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	40.8	2,167.8	2,167.8	0	582.4	0.0000	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	0.1832	8.70	0	8.70	2.61				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	0.2993	16.8	16.8	0	4.27	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	277.7	11,574.4	11,574.4	0	3,209.8	0.0006	0.0001		0.0007	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 4-Elec	T6 instate small-Oth	2.13	97.9	0	97.9	24.6				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	667.4	28,765.5	28,765.5	0	7,715.0	0.0004	0.0002		0.0006	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 5-Elec	T6 instate small-Oth	5.57	263.8	0	263.8	64.4				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	607.1	25,467.0	25,467.0	0	7,018.0	0.0014	0.0002		0.0016	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 6-Elec	T6 instate small-Oth	5.33	247.1	0	247.1	61.7				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	432.8	18,053.9	18,053.9	0	5,003.5	0.0004	0.0001		0.0005	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	1.70	111.7	0	111.7	19.6				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Other Class 7-NG	T6 instate heavy-NG	5.31	289.3	289.3	0	61.4	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	9.86	477.1	477.1	0	114.0	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	0.1332	8.01	0	8.01	1.54				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	257.4	15,101.1	15,101.1	0	2,975.3	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	1.02	80.8	0	80.8	11.7				0	

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_TOTEX	TOG_DIURN
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	3.35	238.9	238.9	0	38.7	0.0002	0.0000		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	2.93	195.0	195.0	0	67.3	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	3.86	267.5	267.5	0	88.7	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	13.2	698.9	698.9	0	302.7	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	19.9	5,081.8	5,081.8	0	458.1	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 4-Dsl	T6 Public-Dsl	21.5	750.7	750.7	0	110.3	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 4-Elec	T6 Public-Oth	0.2112	9.04	0	9.04	1.08				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 4-NG	T6 Public-NG	1.43	58.5	58.5	0	7.33	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 5-Dsl	T6 Public-Dsl	42.9	1,540.9	1,540.9	0	219.8	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 5-Elec	T6 Public-Oth	0.4217	17.8	0	17.8	2.16				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 5-NG	T6 Public-NG	4.19	170.7	170.7	0	21.5	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 6-Dsl	T6 Public-Dsl	55.3	1,923.4	1,923.4	0	283.8	0.0002	0.0000		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 6-Elec	T6 Public-Oth	0.5791	22.7	0	22.7	2.97				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 6-NG	T6 Public-NG	3.82	157.4	157.4	0	19.6	0.0002	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 7-Dsl	T6 Public-Dsl	71.1	3,221.6	3,221.6	0	364.6	0.0002	0.0000		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 7-Elec	T6 Public-Oth	0.7699	48.0	0	48.0	3.95				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Public Class 7-NG	T6 Public-NG	6.07	321.0	321.0	0	31.1	0.0003	0.0001		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 5-Dsl	T6 Utility-Dsl	14.8	599.0	599.0	0	189.3	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 5-Elec	T6 Utility-Oth	0.2577	11.2	0	11.2	3.30				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 5-NG	T6 Utility-NG	0.0407	1.57	1.57	0	0.5206	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 6-Dsl	T6 Utility-Dsl	2.80	113.0	113.0	0	35.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 6-Elec	T6 Utility-Oth	0.0490	2.13	0	2.13	0.6277				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 6-NG	T6 Utility-NG	0.0121	0.4565	0.4565	0	0.1555	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 7-Dsl	T6 Utility-Dsl	3.17	157.0	157.0	0	40.6	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 7-Elec	T6 Utility-Oth	0.0555	3.43	0	3.43	0.7104				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6 Utility Class 7-NG	T6 Utility-NG	0.0095	0.4328	0.4328	0	0.1218	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6TS-Elec	T6TS - Gas	1.98	180.0	0	180.0	39.6				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T6TS-Gas	T6TS - Gas	262.6	12,647.4	12,647.4	0	5,253.2	0.0018	0.0005	0.0019	0.0042	0.0010
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	691.1	139,325.3	139,325.3	0	15,881.9	0.0022	0.0083		0.0105	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	8.34	1,628.7	0	1,628.7	191.6				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	620.2	166,651.1	166,651.1	0	14,252.9	0.0025	0.0092		0.0118	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	262.7	60,541.4	60,541.4	0	6,037.4	0.0010	0.0039		0.0049	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	13.9	2,588.8	2,588.8	0	228.1	0.0000	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Other Port Class 8-Elec	T7 Other Port-Oth	0.0571	13.6	0	13.6	0.9344				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 POAK Class 8-Dsl	T7 POAK-Dsl	61.6	6,134.3	6,134.3	0	1,008.1	0.0001	0.0002		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 POAK Class 8-Elec	T7 POAK-Oth	0.3260	28.4	0	28.4	5.33				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 POLA Class 8-Dsl	T7 POLA-Dsl	72.6	9,151.1	9,151.1	0	1,187.7	0.0001	0.0003		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 POLA Class 8-Elec	T7 POLA-Oth	0.1451	15.6	0	15.6	2.37				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 POLA Class 8-NG	T7 POLA-NG	0.0337	4.13	4.13	0	0.5517	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Public Class 8-Dsl	T7 Public-Dsl	216.1	9,266.9	9,266.9	0	1,108.7	0.0013	0.0003		0.0016	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Public Class 8-Elec	T7 Public-Oth	1.87	118.6	0	118.6	9.60				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Public Class 8-NG	T7 Public-NG	15.0	737.8	737.8	0	76.8	0.0015	0.0003		0.0018	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	113.2	7,340.0	7,340.0	0	520.8	0.0003	0.0002		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 SWCV Class 8-Elec	T7 SWCV-Oth	1.32	81.2	0	81.2	6.06				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 SWCV Class 8-NG	T7 SWCV-NG	61.5	3,974.0	3,974.0	0	283.0	0.0135	0.0008		0.0143	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	11.2	752.4	752.4	0	105.6	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	0.2022	15.3	0	15.3	1.90				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	0.4928	32.8	32.8	0	4.64	0.0000	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	88.1	4,992.2	4,992.2	0	830.2	0.0001	0.0002		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	0.6111	48.9	0	48.9	5.76				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Dump Class 8-NG	T7 Single-NG	3.12	177.3	177.3	0	29.4	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Other Class 8-Dsl	T7 Single-Dsl	481.3	25,611.5	25,611.5	0	4,533.9	0.0006	0.0011		0.0017	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Other Class 8-Elec	T7 Single Other-Oth	3.23	244.6	0	244.6	30.4				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Single Other Class 8-NG	T7 Single-NG	16.7	890.5	890.5	0	157.2	0.0011	0.0006		0.0017	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1,231.7	90,737.3	90,737.3	0	17,897.0	0.0016	0.0049		0.0065	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Tractor Class 8-Elec	T7 Tractor-Oth	6.48	522.5	0	522.5	94.1				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Tractor Class 8-NG	T7 Tractor-NG	22.0	1,607.9	1,607.9	0	319.9	0.0018	0.0015		0.0033	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Utility Class 8-Dsl	T7 Utility-Dsl	10.8	479.1	479.1	0	138.2	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7 Utility Class 8-Elec	T7 Utility-Oth	0.0627	4.01	0	4.01	0.8023				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7IS-Elec	T7IS - Gas	0.0018	0.5162	0	0.5162	0.0355				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	T7IS-Gas	T7IS - Gas	0.3931	25.4	25.4	0	7.86	0.0001		0.0000	0.0001	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	UBUS-Dsl	UBUS - Dsl	11.0	1,092.6	1,092.6	0	44.1	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	UBUS-Elec	UBUS - Oth	1.46	33.8	0	33.8	5.83				0	
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	UBUS-Gas	UBUS - Gas	42.5	2,986.9	2,986.9	0	169.8	0.0001		0.0001	0.0002	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Winter	Tulare (SJV)-2025-Winter	UBUS-NG	UBUS - NG	64.2	7,448.7	7,448.7	0	256.6	0.0121			0.0121	

Veh_Tech	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX
All Vehicles	0.1628	0.4376	2.15	0.2601	0.0313	0.5853	0.8767	0.4900	0.1628	0.4376	1.99	9.40	0.4943	5.54	15.4	2.85	0.4169	0.7622
All Other Buses-Dsl			0.0008	0.0007	0.0000		0.0007				0.0007	0.0018	0.0002		0.0020	0.0090	0.0002	0.0007
All Other Buses-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0004	0.0000		0.0005	0.0000	0.0000	
LDA-Dsl			0.0002	0.0002			0.0002				0.0002	0.0025			0.0025	0.0018		
LDA-Elec			0				0				0				0			
LDA-Gas	0.0478	0.1351	0.6256	0.0373		0.1998	0.2371	0.1696	0.0478	0.1351	0.5973	3.20		2.05	5.25	0.2158		0.1531
LDA-Phe	0.0006	0.0006	0.0060	0.0002		0.0029	0.0030	0.0015	0.0006	0.0006	0.0057	0.0308		0.0226	0.0533	0.0006		0.0018
LDT1-Dsl			0.0000	0.0000			0.0000				0.0000	0.0002			0.0002	0.0002		
LDT1-Elec			0				0				0				0			
LDT1-Gas	0.0117	0.0395	0.1699	0.0176		0.0439	0.0615	0.0450	0.0117	0.0395	0.1625	0.7581		0.4375	1.20	0.0994		0.0275
LDT1-Phe	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001		0.0001	0.0003	0.0000		0.0000
LDT2-Dsl			0.0001	0.0001			0.0001				0.0001	0.0007			0.0007	0.0003		
LDT2-Elec			0				0				0				0			
LDT2-Gas	0.0230	0.0723	0.3573	0.0283		0.1190	0.1474	0.0903	0.0230	0.0723	0.3333	1.84		1.17	3.01	0.2134		0.0992
LDT2-Phe	0.0000	0.0000	0.0006	0.0000		0.0004	0.0004	0.0001	0.0000	0.0000	0.0006	0.0039		0.0029	0.0068	0.0001		0.0002
LHD1-Dsl			0.0555	0.0481	0.0007		0.0488				0.0489	0.1399	0.0055		0.1454	0.4772	0.0135	
LHD1-Elec			0				0				0				0			
LHD1-Gas	0.0042	0.0265	0.0831	0.0108	0.0023	0.0148	0.0278	0.0172	0.0042	0.0265	0.0785	0.2639	0.0200	0.2576	0.5416	0.0487	0.0002	0.0574
LHD2-Dsl			0.0178	0.0154	0.0002		0.0156				0.0157	0.0431	0.0019		0.0450	0.1406	0.0045	
LHD2-Elec			0				0				0				0			
LHD2-Gas	0.0006	0.0035	0.0101	0.0004	0.0004	0.0022	0.0030	0.0025	0.0006	0.0035	0.0098	0.0203	0.0030	0.0374	0.0607	0.0054	0.0000	0.0090
MCY-Gas	0.0422	0.0528	0.1995	0.0439		0.0225	0.0664	0.0280	0.0422	0.0528	0.1944	0.5417		0.1218	0.6634	0.0246		0.0022
MDV-Dsl			0.0005	0.0004			0.0004				0.0004	0.0076			0.0076	0.0037		
MDV-Elec			0				0				0				0			
MDV-Gas	0.0314	0.1043	0.5184	0.0398		0.1770	0.2168	0.1308	0.0314	0.1043	0.4789	2.20		1.37	3.57	0.3065		0.1421
MDV-Phe	0.0000	0.0000	0.0005	0.0000		0.0003	0.0003	0.0001	0.0000	0.0000	0.0005	0.0030		0.0023	0.0053	0.0001		0.0002
MH-Dsl			0.0006	0.0005			0.0005				0.0005	0.0019			0.0019	0.0195		
MH-Gas	0.0008	0.0000	0.0044	0.0004		0.0000	0.0004	0.0031	0.0008	0.0000	0.0050	0.0081		0.0003	0.0084	0.0028		0.0000
Motor Coach-Dsl			0.0001	0.0000	0.0001		0.0001				0.0001	0.0002	0.0011		0.0013	0.0042	0.0009	0.0009
OBUS-Elec			0				0				0				0			
OBUS-Gas	0.0001	0.0005	0.0021	0.0004	0.0001	0.0004	0.0009	0.0004	0.0001	0.0005	0.0019	0.0083	0.0006	0.0097	0.0186	0.0032	0.0000	0.0009
PTO-Dsl			0.0002	0.0002			0.0002				0.0002	0.0021			0.0021	0.0243		
PTO-Elec			0				0				0				0			
SBUS-Dsl			0.0007	0.0005	0.0001		0.0006				0.0006	0.0017	0.0018		0.0035	0.0401	0.0088	0.0026
SBUS-Elec			0				0				0				0			
SBUS-Gas	0.0001	0.0002	0.0027	0.0002	0.0011	0.0002	0.0015	0.0003	0.0001	0.0002	0.0021	0.0048	0.0087	0.0051	0.0187	0.0024	0.0001	0.0004
SBUS-NG			0.0058	0.0001	0.0000		0.0001				0.0001	0.0148	0.0019		0.0167	0.0006	0.0004	
T6 CAIRP Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 CAIRP Class 4-Elec			0				0				0				0			
T6 CAIRP Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0002	0.0000	0.0001
T6 CAIRP Class 5-Elec			0				0				0				0			
T6 CAIRP Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0004	0.0001	0.0003
T6 CAIRP Class 6-Elec			0				0				0				0			
T6 CAIRP Class 7-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0003	0.0001		0.0003	0.0032	0.0001	0.0005
T6 CAIRP Class 7-Elec			0				0				0				0			
T6 Instate Delivery Class 4-Dsl			0.0002	0.0002	0.0000		0.0002				0.0002	0.0005	0.0004		0.0010	0.0034	0.0007	0.0011
T6 Instate Delivery Class 4-Elec			0				0				0				0			
T6 Instate Delivery Class 5-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0003	0.0003		0.0006	0.0017	0.0004	0.0008
T6 Instate Delivery Class 5-Elec			0				0				0				0			
T6 Instate Delivery Class 6-Dsl			0.0004	0.0003	0.0000		0.0004				0.0004	0.0012	0.0018		0.0030	0.0091	0.0026	0.0050
T6 Instate Delivery Class 6-Elec			0				0				0				0			
T6 Instate Delivery Class 7-Dsl			0.0001	0.0000	0.0000		0.0001				0.0001	0.0003	0.0003		0.0006	0.0039	0.0005	0.0010
T6 Instate Delivery Class 7-Elec			0				0				0				0			
T6 Instate Delivery Class 7-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0000		0.0001	0.0000	0.0000	
T6 Instate Other Class 4-Dsl			0.0007	0.0006	0.0001		0.0006				0.0007	0.0019	0.0026		0.0045	0.0153	0.0040	0.0060
T6 Instate Other Class 4-Elec			0				0				0				0			
T6 Instate Other Class 5-Dsl			0.0006	0.0004	0.0001		0.0005				0.0005	0.0020	0.0058		0.0078	0.0205	0.0083	0.0154
T6 Instate Other Class 5-Elec			0				0				0				0			
T6 Instate Other Class 6-Dsl			0.0016	0.0012	0.0002		0.0014				0.0014	0.0042	0.0058		0.0100	0.0321	0.0086	0.0130
T6 Instate Other Class 6-Elec			0				0				0				0			
T6 Instate Other Class 7-Dsl			0.0005	0.0003	0.0001		0.0004				0.0005	0.0018	0.0038		0.0057	0.0251	0.0056	0.0102
T6 Instate Other Class 7-Elec			0				0				0				0			
T6 Instate Other Class 7-NG			0.0003	0.0000	0.0000		0.0000				0.0000	0.0009	0.0002		0.0011	0.0000	0.0000	
T6 Instate Tractor Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0005	0.0001	0.0002
T6 Instate Tractor Class 6-Elec			0				0				0				0			
T6 Instate Tractor Class 7-Dsl			0.0003	0.0002	0.0001		0.0002				0.0002	0.0013	0.0022		0.0035	0.0175	0.0032	0.0060
T6 Instate Tractor Class 7-Elec			0				0				0				0			

Veh_Tech	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX
T6 Instate Tractor Class 7-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0007	0.0001		0.0009	0.0000	0.0000	
T6 OOS Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000
T6 OOS Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 OOS Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0001	0.0003	0.0000	0.0002
T6 OOS Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0002	0.0000		0.0002	0.0023	0.0001	0.0003
T6 Public Class 4-Dsl			0.0001	0.0000	0.0000		0.0001				0.0001	0.0001	0.0002		0.0003	0.0034	0.0009	0.0001
T6 Public Class 4-Elec			0				0				0				0			
T6 Public Class 4-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0002	0.0001		0.0003	0.0000	0.0000	
T6 Public Class 5-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0003	0.0004		0.0007	0.0043	0.0014	0.0003
T6 Public Class 5-Elec			0				0				0				0			
T6 Public Class 5-NG			0.0003	0.0000	0.0000		0.0000				0.0000	0.0006	0.0002		0.0008	0.0000	0.0000	
T6 Public Class 6-Dsl			0.0002	0.0001	0.0000		0.0002				0.0002	0.0004	0.0004		0.0008	0.0095	0.0022	0.0003
T6 Public Class 6-Elec			0				0				0				0			
T6 Public Class 6-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0005	0.0002		0.0007	0.0000	0.0000	
T6 Public Class 7-Dsl			0.0003	0.0002	0.0000		0.0002				0.0002	0.0005	0.0007		0.0012	0.0141	0.0024	0.0005
T6 Public Class 7-Elec			0				0				0				0			
T6 Public Class 7-NG			0.0004	0.0000	0.0000		0.0000				0.0000	0.0011	0.0003		0.0014	0.0000	0.0001	
T6 Utility Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0003	0.0001	0.0003
T6 Utility Class 5-Elec			0				0				0				0			
T6 Utility Class 5-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6 Utility Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 Utility Class 6-Elec			0				0				0				0			
T6 Utility Class 6-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6 Utility Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 Utility Class 7-Elec			0				0				0				0			
T6 Utility Class 7-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6TS-Elec			0				0				0				0			
T6TS-Gas	0.0002	0.0023	0.0077	0.0012	0.0003	0.0017	0.0033	0.0010	0.0002	0.0023	0.0070	0.0265	0.0057	0.0385	0.0708	0.0081	0.0000	0.0028
T7 CAIRP Class 8-Dsl			0.0105	0.0019	0.0073		0.0092				0.0100	0.0083	0.1194		0.1277	0.2354	0.0941	0.0389
T7 CAIRP Class 8-Elec			0				0				0				0			
T7 NNOOS Class 8-Dsl			0.0118	0.0022	0.0081		0.0104				0.0111	0.0089	0.1331		0.1420	0.2760	0.1119	0.0364
T7 NOOS Class 8-Dsl			0.0049	0.0009	0.0034		0.0043				0.0046	0.0036	0.0563		0.0600	0.1050	0.0474	0.0152
T7 Other Port Class 8-Dsl			0.0001	0.0000	0.0000		0.0001				0.0001	0.0003	0.0008		0.0011	0.0047	0.0007	0.0006
T7 Other Port Class 8-Elec			0				0				0				0			
T7 POAK Class 8-Dsl			0.0003	0.0001	0.0002		0.0003				0.0003	0.0007	0.0035		0.0042	0.0118	0.0029	0.0026
T7 POAK Class 8-Elec			0				0				0				0			
T7 POLA Class 8-Dsl			0.0004	0.0001	0.0003		0.0004				0.0004	0.0012	0.0041		0.0053	0.0188	0.0034	0.0030
T7 POLA Class 8-Elec			0				0				0				0			
T7 POLA Class 8-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T7 Public Class 8-Dsl			0.0016	0.0011	0.0003		0.0014				0.0014	0.0038	0.0027		0.0065	0.0861	0.0077	0.0042
T7 Public Class 8-Elec			0				0				0				0			
T7 Public Class 8-NG			0.0018	0.0000	0.0000		0.0000				0.0000	0.0075	0.0007		0.0082	0.0004	0.0001	
T7 SWCV Class 8-Dsl			0.0004	0.0002	0.0002		0.0004				0.0004	0.0006	0.0016		0.0022	0.0666	0.0045	0.0018
T7 SWCV Class 8-Elec			0				0				0				0			
T7 SWCV Class 8-NG			0.0143	0.0003	0.0000		0.0003				0.0003	0.0767	0.0037		0.0804	0.0069	0.0003	
T7 Single Concrete/Transit Mix Class 8-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0003		0.0004	0.0009	0.0003	0.0004
T7 Single Concrete/Transit Mix Class 8-Elec			0				0				0				0			
T7 Single Concrete/Transit Mix Class 8-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0002	0.0000		0.0002	0.0000	0.0000	
T7 Single Dump Class 8-Dsl			0.0003	0.0001	0.0002		0.0003				0.0003	0.0006	0.0027		0.0032	0.0093	0.0022	0.0027
T7 Single Dump Class 8-Elec			0				0				0				0			
T7 Single Dump Class 8-NG			0.0003	0.0000	0.0000		0.0000				0.0000	0.0016	0.0002		0.0017	0.0001	0.0000	
T7 Single Other Class 8-Dsl			0.0017	0.0005	0.0010		0.0015				0.0016	0.0029	0.0145		0.0174	0.0462	0.0124	0.0147
T7 Single Other Class 8-Elec			0				0				0				0			
T7 Single Other Class 8-NG			0.0017	0.0000	0.0000		0.0000				0.0000	0.0078	0.0009		0.0088	0.0005	0.0002	
T7 Tractor Class 8-Dsl			0.0065	0.0014	0.0043		0.0057				0.0061	0.0078	0.0700		0.0779	0.1600	0.0580	0.0779
T7 Tractor Class 8-Elec			0				0				0				0			
T7 Tractor Class 8-NG			0.0033	0.0000	0.0000		0.0000				0.0000	0.0116	0.0027		0.0143	0.0006	0.0005	
T7 Utility Class 8-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0001		0.0002	0.0007	0.0001	0.0008
T7 Utility Class 8-Elec			0				0				0				0			
T7IS-Elec			0				0				0				0			
T7IS-Gas	0.0000	0.0000	0.0001	0.0001		0.0000	0.0001	0.0000	0.0000	0.0000	0.0001	0.0022		0.0000	0.0022	0.0002		0.0000
UBUS-Dsl			0.0000	0.0000			0.0000				0.0000	0.0000			0.0000	0.0001		
UBUS-Elec			0				0				0				0			
UBUS-Gas	0.0000	0.0000	0.0002	0.0000		0.0001	0.0002	0.0000	0.0000	0.0000	0.0002	0.0010		0.0022	0.0032	0.0007		0.0002
UBUS-NG			0.0121	0.0002			0.0002				0.0002	0.1141			0.1141	0.0012		

Veh_Tech	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX
All Vehicles	3.86	0.0480	0.0006	0.0026	0.0511	0.1123	0.1806	0.3446	0.0454	0.0005	0.0024	0.0483	0.0281	0.0632	0.1398	0.0455
All Other Buses-Dsl	0.0098	0.0002	0.0000		0.0003	0.0000	0.0001	0.0004	0.0002	0.0000		0.0002	0.0000	0.0001	0.0003	0.0000
All Other Buses-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
LDA-Dsl	0.0018	0.0001			0.0001	0.0001	0.0001	0.0003	0.0001			0.0001	0.0000	0.0000	0.0002	0.0000
LDA-Elec	0				0	0.0022	0.0012	0.0034				0	0.0005	0.0004	0.0010	
LDA-Gas	0.3317	0.0060		0.0012	0.0072	0.0409	0.0386	0.0867	0.0056		0.0011	0.0066	0.0102	0.0135	0.0304	0.0133
LDA-Phe	0.0021	0.0001		0.0000	0.0001	0.0014	0.0007	0.0022	0.0001		0.0000	0.0001	0.0003	0.0002	0.0007	0.0002
LDT1-Dsl	0.0002	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000
LDT1-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
LDT1-Gas	0.1137	0.0009		0.0002	0.0011	0.0030	0.0033	0.0074	0.0008		0.0002	0.0010	0.0008	0.0012	0.0029	0.0012
LDT1-Phe	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LDT2-Dsl	0.0003	0.0000			0.0000	0.0001	0.0001	0.0001	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000
LDT2-Elec	0				0	0.0001	0.0001	0.0002				0	0.0000	0.0000	0.0000	
LDT2-Gas	0.2807	0.0028		0.0005	0.0033	0.0177	0.0184	0.0395	0.0026		0.0005	0.0031	0.0044	0.0064	0.0139	0.0072
LDT2-Phe	0.0003	0.0000		0.0000	0.0000	0.0002	0.0001	0.0003	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
LHD1-Dsl	0.4823	0.0111	0.0002		0.0113	0.0025	0.0165	0.0306	0.0107	0.0002		0.0108	0.0006	0.0058	0.0173	0.0013
LHD1-Elec	0				0	0.0000	0.0001	0.0000				0	0.0000	0.0000	0.0000	
LHD1-Gas	0.0993	0.0003		0.0000	0.0004	0.0015	0.0149	0.0170	0.0003		0.0000	0.0003	0.0004	0.0052	0.0060	0.0017
LHD2-Dsl	0.1428	0.0035	0.0001		0.0036	0.0009	0.0068	0.0114	0.0034	0.0001		0.0034	0.0002	0.0024	0.0061	0.0005
LHD2-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
LHD2-Gas	0.0135	0.0000		0.0000	0.0000	0.0002	0.0026	0.0028	0.0000		0.0000	0.0000	0.0001	0.0009	0.0010	0.0002
MCY-Gas	0.0246	0.0001		0.0000	0.0001	0.0001	0.0004	0.0007	0.0001		0.0000	0.0001	0.0000	0.0001	0.0003	0.0001
MDV-Dsl	0.0036	0.0002			0.0002	0.0003	0.0003	0.0009	0.0002			0.0002	0.0001	0.0001	0.0004	0.0001
MDV-Elec	0				0	0.0001	0.0001	0.0002				0	0.0000	0.0000	0.0001	
MDV-Gas	0.4026	0.0027		0.0006	0.0033	0.0170	0.0193	0.0396	0.0025		0.0005	0.0030	0.0042	0.0067	0.0140	0.0086
MDV-Phe	0.0002	0.0000		0.0000	0.0000	0.0001	0.0001	0.0002	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
MH-Dsl	0.0191	0.0005			0.0005	0.0001	0.0002	0.0007	0.0005			0.0005	0.0000	0.0001	0.0006	0.0000
MH-Gas	0.0026	0.0000		0.0000	0.0000	0.0001	0.0003	0.0004	0.0000		0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
Motor Coach-Dsl	0.0059	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0001	0.0000
OBUS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
OBUS-Gas	0.0038	0.0000		0.0000	0.0000	0.0000	0.0002	0.0002	0.0000		0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
PTO-Dsl	0.0242	0.0000			0.0000			0.0000	0.0000			0.0000			0.0000	0.0001
PTO-Elec	0				0			0				0			0	
SBUS-Dsl	0.0510	0.0002	0.0000		0.0002	0.0001	0.0004	0.0007	0.0002	0.0000		0.0002	0.0000	0.0001	0.0004	0.0001
SBUS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
SBUS-Gas	0.0026	0.0000		0.0000	0.0000	0.0000	0.0003	0.0003	0.0000		0.0000	0.0000	0.0000	0.0001	0.0001	0.0000
SBUS-NG	0.0009	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 CAIRP Class 4-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 5-Dsl	0.0003	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 6-Dsl	0.0009	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 7-Dsl	0.0039	0.0001	0.0000		0.0001	0.0001	0.0003	0.0005	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0001
T6 CAIRP Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 4-Dsl	0.0051	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0001	0.0000		0.0001	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 5-Dsl	0.0029	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 6-Dsl	0.0166	0.0001	0.0000		0.0001	0.0001	0.0004	0.0006	0.0001	0.0000		0.0001	0.0000	0.0001	0.0003	0.0001
T6 Instate Delivery Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 7-Dsl	0.0053	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 7-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Instate Other Class 4-Dsl	0.0251	0.0003	0.0000		0.0003	0.0002	0.0006	0.0010	0.0003	0.0000		0.0003	0.0000	0.0002	0.0005	0.0001
T6 Instate Other Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Other Class 5-Dsl	0.0440	0.0002	0.0000		0.0002	0.0004	0.0014	0.0020	0.0002	0.0000		0.0002	0.0001	0.0005	0.0008	0.0003
T6 Instate Other Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Other Class 6-Dsl	0.0535	0.0006	0.0000		0.0007	0.0003	0.0013	0.0023	0.0006	0.0000		0.0007	0.0001	0.0004	0.0012	0.0003
T6 Instate Other Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Other Class 7-Dsl	0.0406	0.0002	0.0000		0.0002	0.0002	0.0009	0.0013	0.0002	0.0000		0.0002	0.0001	0.0003	0.0005	0.0002
T6 Instate Other Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Other Class 7-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Instate Tractor Class 6-Dsl	0.0008	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Instate Tractor Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Tractor Class 7-Dsl	0.0264	0.0001	0.0000		0.0001	0.0002	0.0007	0.0011	0.0001	0.0000		0.0001	0.0000	0.0003	0.0004	0.0002
T6 Instate Tractor Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	

Veh_Tech	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX
T6 Instate Tractor Class 7-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 OOS Class 4-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 5-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 6-Dsl	0.0005	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 7-Dsl	0.0026	0.0000	0.0000		0.0000	0.0001	0.0002	0.0003	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0001
T6 Public Class 4-Dsl	0.0044	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 4-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 5-Dsl	0.0059	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Public Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 5-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 6-Dsl	0.0119	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0001	0.0000		0.0001	0.0000	0.0000	0.0001	0.0000
T6 Public Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 6-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 7-Dsl	0.0169	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000
T6 Public Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 7-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 5-Dsl	0.0007	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 5-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 6-Dsl	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 6-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 7-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 7-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6TS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6TS-Gas	0.0102	0.0000		0.0000	0.0000	0.0002	0.0006	0.0008	0.0000		0.0000	0.0000	0.0000	0.0002	0.0003	0.0002
T7 CAIRP Class 8-Dsl	0.3710	0.0049	0.0000		0.0050	0.0055	0.0114	0.0221	0.0047	0.0000		0.0047	0.0014	0.0040	0.0102	0.0022
T7 CAIRP Class 8-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T7 NNOOS Class 8-Dsl	0.4120	0.0056	0.0000		0.0057	0.0066	0.0136	0.0259	0.0054	0.0000		0.0054	0.0017	0.0048	0.0118	0.0026
T7 NOOS Class 8-Dsl	0.1626	0.0022	0.0000		0.0022	0.0024	0.0050	0.0096	0.0021	0.0000		0.0021	0.0006	0.0017	0.0044	0.0010
T7 Other Port Class 8-Dsl	0.0059	0.0001	0.0000		0.0001	0.0001	0.0002	0.0004	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000
T7 Other Port Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 POAK Class 8-Dsl	0.0171	0.0001	0.0000		0.0001	0.0002	0.0006	0.0010	0.0001	0.0000		0.0001	0.0001	0.0002	0.0004	0.0001
T7 POAK Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 POLA Class 8-Dsl	0.0248	0.0002	0.0000		0.0002	0.0004	0.0009	0.0014	0.0002	0.0000		0.0002	0.0001	0.0003	0.0006	0.0002
T7 POLA Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 POLA Class 8-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Public Class 8-Dsl	0.0971	0.0005	0.0000		0.0005	0.0004	0.0012	0.0021	0.0005	0.0000		0.0005	0.0001	0.0004	0.0010	0.0002
T7 Public Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 Public Class 8-NG	0.0005	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 SWCV Class 8-Dsl	0.0717	0.0001	0.0000		0.0001	0.0003	0.0017	0.0021	0.0001	0.0000		0.0001	0.0001	0.0006	0.0008	0.0003
T7 SWCV Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 SWCV Class 8-NG	0.0071	0.0000	0.0000		0.0000	0.0002	0.0009	0.0011	0.0000	0.0000		0.0000	0.0000	0.0003	0.0004	
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0016	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T7 Single Concrete/Transit Mix Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 Single Concrete/Transit Mix Class 8-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Single Dump Class 8-Dsl	0.0141	0.0001	0.0000		0.0001	0.0002	0.0004	0.0008	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001
T7 Single Dump Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 Single Dump Class 8-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Single Other Class 8-Dsl	0.0731	0.0005	0.0000		0.0006	0.0010	0.0023	0.0039	0.0005	0.0000		0.0005	0.0003	0.0008	0.0016	0.0004
T7 Single Other Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 Single Other Class 8-NG	0.0007	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Tractor Class 8-Dsl	0.2937	0.0023	0.0000		0.0023	0.0036	0.0078	0.0139	0.0022	0.0000		0.0022	0.0009	0.0027	0.0059	0.0015
T7 Tractor Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 Tractor Class 8-NG	0.0012	0.0000	0.0000		0.0000	0.0001	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	
T7 Utility Class 8-Dsl	0.0016	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T7 Utility Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7IS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7IS-Gas	0.0002	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Dsl	0.0001	0.0000			0.0000	0.0000	0.0001	0.0001	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000
UBUS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
UBUS-Gas	0.0008	0.0000		0.0000	0.0000	0.0000	0.0004	0.0004	0.0000		0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
UBUS-NG	0.0012	0.0000			0.0000	0.0001	0.0009	0.0010	0.0000			0.0000	0.0000	0.0003	0.0004	

Veh_Tech	SOx_IDLEX	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
All Vehicles	0.0007	0.0010	0.0472	0.5875	363.1	124.2	2.82
All Other Buses-Dsl	0.0000		0.0000	0.0006		0.3188	
All Other Buses-NG			0	0.0001			0.0162
LDA-Dsl			0.0000	0.0000		0.1717	
LDA-Elec			0				
LDA-Gas		0.0004	0.0137	0.1786	146.1		
LDA-Phe		0.0000	0.0002	0.0032	2.34		
LDT1-Dsl			0.0000	0.0000		0.0039	
LDT1-Elec			0				
LDT1-Gas		0.0000	0.0013	0.0150	13.4		
LDT1-Phe		0.0000	0.0000	0.0000	0.0111		
LDT2-Dsl			0.0000	0.0000		0.1739	
LDT2-Elec			0				
LDT2-Gas		0.0002	0.0074	0.0818	78.7		
LDT2-Phe		0.0000	0.0000	0.0004	0.2972		
LHD1-Dsl	0.0000		0.0013	0.0314		12.1	
LHD1-Elec			0				
LHD1-Gas	0.0000	0.0000	0.0017	0.0086	18.4		
LHD2-Dsl	0.0000		0.0006	0.0123		5.21	
LHD2-Elec			0				
LHD2-Gas	0.0000	0.0000	0.0002	0.0013	2.14		
MCY-Gas		0.0000	0.0001	0.0003	0.7693		
MDV-Dsl			0.0001	0.0001		1.35	
MDV-Elec			0				
MDV-Gas		0.0003	0.0089	0.0729	95.1		
MDV-Phe		0.0000	0.0000	0.0003	0.2347		
MH-Dsl			0.0000	0.0004		0.3420	
MH-Gas		0.0000	0.0001	0.0003	1.26		
Motor Coach-Dsl	0.0000		0.0000	0.0005		0.3976	
OBUS-Elec			0				
OBUS-Gas	0.0000	0.0000	0.0001	0.0002	0.7596		
PTO-Dsl			0.0001	0.0016		1.31	
PTO-Elec			0				
SBUS-Dsl	0.0000		0.0001	0.0012		0.9088	
SBUS-Elec			0				
SBUS-Gas	0.0000	0.0000	0.0000	0.0003	0.5330		
SBUS-NG			0	0.0018			0.2696
T6 CAIRP Class 4-Dsl	0.0000		0.0000	0.0001		0.0368	
T6 CAIRP Class 4-Elec			0				
T6 CAIRP Class 5-Dsl	0.0000		0.0000	0.0001		0.0506	
T6 CAIRP Class 5-Elec			0				
T6 CAIRP Class 6-Dsl	0.0000		0.0000	0.0003		0.1294	
T6 CAIRP Class 6-Elec			0				
T6 CAIRP Class 7-Dsl	0.0000		0.0001	0.0018		0.7626	
T6 CAIRP Class 7-Elec			0				
T6 Instate Delivery Class 4-Dsl	0.0000		0.0000	0.0004		0.2004	
T6 Instate Delivery Class 4-Elec			0				
T6 Instate Delivery Class 5-Dsl	0.0000		0.0000	0.0003		0.1409	
T6 Instate Delivery Class 5-Elec			0				
T6 Instate Delivery Class 6-Dsl	0.0000		0.0001	0.0017		0.8579	
T6 Instate Delivery Class 6-Elec			0				
T6 Instate Delivery Class 7-Dsl	0.0000		0.0000	0.0005		0.2527	
T6 Instate Delivery Class 7-Elec			0				
T6 Instate Delivery Class 7-NG			0	0.0000			0.0025
T6 Instate Other Class 4-Dsl	0.0000		0.0001	0.0027		1.35	
T6 Instate Other Class 4-Elec			0				
T6 Instate Other Class 5-Dsl	0.0000		0.0004	0.0069		3.35	
T6 Instate Other Class 5-Elec			0				
T6 Instate Other Class 6-Dsl	0.0000		0.0003	0.0059		2.96	
T6 Instate Other Class 6-Elec			0				
T6 Instate Other Class 7-Dsl	0.0000		0.0002	0.0044		2.05	
T6 Instate Other Class 7-Elec			0				
T6 Instate Other Class 7-NG			0	0.0003			0.0388
T6 Instate Tractor Class 6-Dsl	0.0000		0.0000	0.0001		0.0548	
T6 Instate Tractor Class 6-Elec			0				
T6 Instate Tractor Class 7-Dsl	0.0000		0.0002	0.0037		1.61	
T6 Instate Tractor Class 7-Elec			0				

Veh_Tech	SOx_IDLEX	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
T6 Instate Tractor Class 7-NG			0	0.0003			0.0307
T6 OOS Class 4-Dsl	0.0000		0.0000	0.0000		0.0214	
T6 OOS Class 5-Dsl	0.0000		0.0000	0.0001		0.0294	
T6 OOS Class 6-Dsl	0.0000		0.0000	0.0002		0.0753	
T6 OOS Class 7-Dsl	0.0000		0.0001	0.0012		0.5124	
T6 Public Class 4-Dsl	0.0000		0.0000	0.0001		0.0970	
T6 Public Class 4-Elec			0				
T6 Public Class 4-NG			0	0.0001			0.0087
T6 Public Class 5-Dsl	0.0000		0.0000	0.0003		0.1982	
T6 Public Class 5-Elec			0				
T6 Public Class 5-NG			0	0.0002			0.0258
T6 Public Class 6-Dsl	0.0000		0.0000	0.0003		0.2489	
T6 Public Class 6-Elec			0				
T6 Public Class 6-NG			0	0.0002			0.0235
T6 Public Class 7-Dsl	0.0000		0.0000	0.0006		0.4067	
T6 Public Class 7-Elec			0				
T6 Public Class 7-NG			0	0.0004			0.0467
T6 Utility Class 5-Dsl	0.0000		0.0000	0.0001		0.0674	
T6 Utility Class 5-Elec			0				
T6 Utility Class 5-NG			0	0.0000			0.0002
T6 Utility Class 6-Dsl	0.0000		0.0000	0.0000		0.0127	
T6 Utility Class 6-Elec			0				
T6 Utility Class 6-NG			0	0.0000			0.0001
T6 Utility Class 7-Dsl	0.0000		0.0000	0.0000		0.0175	
T6 Utility Class 7-Elec			0				
T6 Utility Class 7-NG			0	0.0000			0.0001
T6TS-Elec			0				
T6TS-Gas	0.0000	0.0000	0.0002	0.0006	2.65		
T7 CAIRP Class 8-Dsl	0.0002		0.0024	0.0338		22.5	
T7 CAIRP Class 8-Elec			0				
T7 NNOOS Class 8-Dsl	0.0002		0.0028	0.0404		26.2	
T7 NOOS Class 8-Dsl	0.0001		0.0010	0.0147		9.74	
T7 Other Port Class 8-Dsl	0.0000		0.0000	0.0006		0.4331	
T7 Other Port Class 8-Elec			0				
T7 POAK Class 8-Dsl	0.0000		0.0001	0.0015		1.05	
T7 POAK Class 8-Elec			0				
T7 POLA Class 8-Dsl	0.0000		0.0002	0.0022		1.58	
T7 POLA Class 8-Elec			0				
T7 POLA Class 8-NG			0	0.0000			0.0007
T7 Public Class 8-Dsl	0.0000		0.0002	0.0014		1.76	
T7 Public Class 8-Elec			0				
T7 Public Class 8-NG			0	0.0009			0.1575
T7 SWCV Class 8-Dsl	0.0000		0.0003	0.0010		2.87	
T7 SWCV Class 8-Elec			0				
T7 SWCV Class 8-NG			0	0.0025			0.8337
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000		0.0000	0.0002		0.1258	
T7 Single Concrete/Transit Mix Class 8-Elec			0				
T7 Single Concrete/Transit Mix Class 8-NG			0	0.0000			0.0058
T7 Single Dump Class 8-Dsl	0.0000		0.0001	0.0012		0.8609	
T7 Single Dump Class 8-Elec			0				
T7 Single Dump Class 8-NG			0	0.0002			0.0334
T7 Single Other Class 8-Dsl	0.0000		0.0005	0.0062		4.33	
T7 Single Other Class 8-Elec			0				
T7 Single Other Class 8-NG			0	0.0010			0.1655
T7 Tractor Class 8-Dsl	0.0001		0.0016	0.0220		14.8	
T7 Tractor Class 8-Elec			0				
T7 Tractor Class 8-NG			0	0.0019			0.2975
T7 Utility Class 8-Dsl	0.0000		0.0000	0.0001		0.0821	
T7 Utility Class 8-Elec			0				
T7IS-Elec			0				
T7IS-Gas		0.0000	0.0000	0.0000	0.0067		
UBUS-Dsl			0.0000	0.0003		0.0816	
UBUS-Elec			0				
UBUS-Gas		0.0000	0.0001	0.0001	0.5996		
UBUS-NG			0	0.0080			0.8618

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_TOTEX	TOG_DIURN
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Vehicles	All Vehicles	296,035.2	12,458,424.7	10,945,426.9	1,512,997.7	1,550,697.6	0.1145	0.0528	0.1992	0.3665	0.3390
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-Dsl	All Other Buses - Dsl	71.2	3,115.9	3,115.9	0	633.3	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-NG	All Other Buses - Oth	5.75	236.8	236.8	0	51.2	0.0002	0.0000		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Dsl	LDA - Dsl	74.2	2,969.5	2,969.5	0	335.5	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Elec	LDA - Oth	16,993.8	696,778.3	0	696,778.3	79,042.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Gas	LDA - Gas	122,847.8	5,160,842.2	5,160,842.2	0	566,811.3	0.0223		0.0790	0.1012	0.1364
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Phe	LDA - Gas	5,790.7	244,195.7	99,489.9	144,705.8	23,944.7	0.0004		0.0048	0.0052	0.0062
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Dsl	LDT1 - Dsl	0.0906	3.59	3.59	0	0.4143	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Elec	LDT1 - Oth	240.2	9,741.3	0	9,741.3	1,113.0				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Gas	LDT1 - Gas	7,794.5	300,842.0	300,842.0	0	35,092.6	0.0014		0.0052	0.0066	0.0124
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Phe	LDT1 - Gas	183.5	7,449.6	3,031.6	4,418.0	758.9	0.0000		0.0002	0.0002	0.0002
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Dsl	LDT2 - Dsl	250.4	10,043.0	10,043.0	0	1,149.3	0.0001			0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Elec	LDT2 - Oth	2,652.8	75,109.0	0	75,109.0	12,328.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Gas	LDT2 - Gas	66,042.0	2,631,891.1	2,631,891.1	0	301,891.3	0.0158		0.0568	0.0725	0.0860
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Phe	LDT2 - Gas	1,809.8	72,837.0	29,681.9	43,155.1	7,483.7	0.0001		0.0015	0.0016	0.0020
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Dsl	LHD1 - Dsl	1,682.4	57,172.6	57,172.6	0	21,162.5	0.0066	0.0002		0.0068	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Elec	LHD1 - Oth	2,941.9	130,406.0	0	130,406.0	41,349.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Gas	LHD1 - Gas	2,366.0	87,687.5	87,687.5	0	35,250.3	0.0005	0.0011	0.0035	0.0051	0.0061
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Dsl	LHD2 - Dsl	871.2	27,713.3	27,713.3	0	10,958.1	0.0043	0.0001		0.0044	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Elec	LHD2 - Oth	695.9	30,107.3	0	30,107.3	9,207.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Gas	LHD2 - Gas	265.3	9,496.5	9,496.5	0	3,953.2	0.0000	0.0001	0.0004	0.0005	0.0008
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MCY-Gas	MCY - Gas	5,271.1	29,870.3	29,870.3	0	10,542.1	0.0295		0.0110	0.0405	0.0244
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Dsl	MDV - Dsl	451.8	16,837.3	16,837.3	0	2,002.3	0.0001			0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Elec	MDV - Oth	2,453.2	68,650.7	0	68,650.7	11,352.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Gas	MDV - Gas	39,583.5	1,523,044.7	1,523,044.7	0	178,283.1	0.0094		0.0353	0.0447	0.0620
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Phe	MDV - Gas	1,161.6	45,797.3	18,675.4	27,121.9	4,803.4	0.0001		0.0010	0.0010	0.0014
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Dsl	MH - Dsl	202.7	1,974.6	1,974.6	0	20.3	0.0002			0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Gas	MH - Gas	295.9	3,378.3	3,378.3	0	29.6	0.0001		0.0000	0.0001	0.0007
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	Motor Coach-Dsl	Motor Coach - Dsl	20.4	2,570.9	2,570.9	0	468.2	0.0000	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Elec	OBUS - Oth	22.9	1,521.5	0	1,521.5	459.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Gas	OBUS - Gas	32.6	1,173.3	1,173.3	0	651.6	0.0000	0.0000	0.0001	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Dsl	PTO-Dsl		5,008.9	5,008.9	0		0.0001			0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Elec	PTO-Oth		5,343.3	0	5,343.3					0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Dsl	SBUS - Dsl	171.4	3,533.0	3,533.0	0	2,482.6	0.0000	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Elec	SBUS - Oth	17.2	5,566.0	0	5,566.0	2,888.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Gas	SBUS - Gas	17.7	945.6	945.6	0	70.7	0.0000	0.0003	0.0000	0.0003	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-NG	SBUS-Oth	55.0	1,116.8	1,116.8	0	796.1	0.0028	0.0007		0.0035	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	3.61	268.0	268.0	0	82.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	5.32	410.1	0	410.1	122.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	4.43	367.8	367.8	0	101.8	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	6.52	562.4	0	562.4	149.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	20.2	959.8	959.8	0	464.2	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	29.9	1,471.0	0	1,471.0	686.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	55.6	11,484.7	11,484.7	0	1,278.8	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	17.7	3,762.3	0	3,762.3	405.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	44.2	1,477.1	1,477.1	0	630.2	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	54.7	1,914.7	0	1,914.7	780.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	31.0	1,036.1	1,036.1	0	441.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	38.4	1,346.0	0	1,346.0	548.5				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	188.4	6,301.4	6,301.4	0	2,688.6	0.0000	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	234.2	8,188.1	0	8,188.1	3,341.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	47.5	2,426.1	2,426.1	0	678.1	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	36.6	1,937.9	0	1,937.9	521.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	1.02	52.7	52.7	0	14.6	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	252.0	10,016.0	10,016.0	0	2,913.0	0.0001	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	312.3	13,489.3	0	13,489.3	3,609.7				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	626.0	24,896.0	24,896.0	0	7,236.7	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	776.4	33,562.1	0	33,562.1	8,975.0				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	555.7	22,077.4	22,077.4	0	6,423.5	0.0001	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	688.0	29,704.6	0	29,704.6	7,953.5				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	460.3	19,129.8	19,129.8	0	5,321.0	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	340.4	17,584.1	0	17,584.1	3,934.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	10.6	450.0	450.0	0	122.8	0.0004	0.0001		0.0005	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	8.84	411.5	411.5	0	102.2	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	11.0	565.4	0	565.4	126.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	407.1	24,011.8	24,011.8	0	4,705.7	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	95.7	6,475.9	0	6,475.9	1,106.8				0	

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_TOTEX	TOG_DIURN
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	9.49	566.4	566.4	0	109.7	0.0004	0.0001		0.0006	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	5.25	392.6	392.6	0	120.7	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	6.45	538.6	538.6	0	148.2	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	29.3	1,407.4	1,407.4	0	674.4	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	36.2	10,233.6	10,233.6	0	831.8	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	11.6	397.6	397.6	0	59.3	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Elec	T6 Public-Oth	12.3	471.4	0	471.4	63.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-NG	T6 Public-NG	1.58	54.6	54.6	0	8.10	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	24.5	842.9	842.9	0	125.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Elec	T6 Public-Oth	25.9	990.3	0	990.3	132.7				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-NG	T6 Public-NG	3.46	118.8	118.8	0	17.8	0.0001	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	29.8	1,025.4	1,025.4	0	153.0	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Elec	T6 Public-Oth	31.7	1,206.6	0	1,206.6	162.4				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-NG	T6 Public-NG	4.12	142.2	142.2	0	21.2	0.0001	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	46.9	1,970.8	1,970.8	0	240.8	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Elec	T6 Public-Oth	38.6	1,804.5	0	1,804.5	198.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-NG	T6 Public-NG	6.61	277.4	277.4	0	33.9	0.0003	0.0001		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	6.79	271.8	271.8	0	86.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	10.2	418.1	0	418.1	131.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-NG	T6 Utility-NG	0.0153	0.6136	0.6136	0	0.1962	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	1.28	51.4	51.4	0	16.4	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	1.93	79.0	0	79.0	24.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-NG	T6 Utility-NG	0.0029	0.1160	0.1160	0	0.0371	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	1.43	70.7	70.7	0	18.3	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	2.15	110.7	0	110.7	27.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-NG	T6 Utility-NG	0.0032	0.1596	0.1596	0	0.0413	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Elec	T6TS - Gas	133.5	8,765.7	0	8,765.7	2,670.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Gas	T6TS - Gas	128.1	6,616.6	6,616.6	0	2,562.5	0.0001	0.0002	0.0006	0.0009	0.0003
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	901.2	185,345.1	185,345.1	0	20,710.5	0.0027	0.0118		0.0145	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	250.0	53,237.8	0	53,237.8	5,744.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	995.5	282,078.5	282,078.5	0	22,875.5	0.0039	0.0162		0.0201	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	429.5	102,474.1	102,474.1	0	9,869.8	0.0015	0.0070		0.0085	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	13.3	3,160.9	3,160.9	0	217.1	0.0000	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	3.06	797.2	0	797.2	50.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	71.4	8,248.1	8,248.1	0	1,168.0	0.0001	0.0003		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	16.7	1,903.8	0	1,903.8	272.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	62.8	11,530.4	11,530.4	0	1,027.8	0.0002	0.0003		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	12.1	2,195.9	0	2,195.9	197.7				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-NG	T7 POLA-NG	0.3023	55.5	55.5	0	4.95	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	140.9	5,663.7	5,663.7	0	722.8	0.0002	0.0002		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Elec	T7 Public-Oth	110.6	5,047.8	0	5,047.8	567.5				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-NG	T7 Public-NG	17.7	714.6	714.6	0	90.8	0.0014	0.0003		0.0017	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	23.8	1,548.2	1,548.2	0	109.7	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	89.9	5,814.1	0	5,814.1	413.7				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	84.9	5,499.4	5,499.4	0	390.5	0.0023	0.0003		0.0026	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	5.82	368.5	368.5	0	54.8	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	7.98	530.8	0	530.8	75.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	0.2123	13.4	13.4	0	2.00	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	57.4	2,859.4	2,859.4	0	541.1	0.0000	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	49.3	2,988.0	0	2,988.0	464.5				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	2.08	103.6	103.6	0	19.6	0.0001	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	403.8	21,116.7	21,116.7	0	3,803.4	0.0003	0.0009		0.0012	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	372.2	23,391.0	0	23,391.0	3,506.0				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-NG	T7 Single-NG	14.6	764.2	764.2	0	137.1	0.0009	0.0004		0.0014	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	2,020.3	128,283.4	128,283.4	0	29,354.7	0.0016	0.0088		0.0104	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	389.7	26,900.4	0	26,900.4	5,661.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	31.6	2,006.8	2,006.8	0	459.6	0.0023	0.0017		0.0040	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	7.05	289.8	289.8	0	90.3	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	5.55	255.4	0	255.4	71.0				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Elec	T7IS - Gas	0.1816	28.1	0	28.1	3.63				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Gas	T7IS - Gas	0.1811	23.0	23.0	0	3.62	0.0000		0.0000	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Dsl	UBUS - Dsl	0.5986	43.2	43.2	0	2.39	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Elec	UBUS - Oth	125.6	12,463.0	0	12,463.0	502.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Gas	UBUS - Gas	5.84	369.5	369.5	0	23.3	0.0000		0.0000	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-NG	UBUS - NG	2.41	174.1	174.1	0	9.65	0.0000			0.0000	

Veh_Tech	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX
All Vehicles	0.0946	0.2760	1.08	0.0786	0.0424	0.1820	0.3029	0.3390	0.0946	0.2760	1.04	6.36	0.6524	2.43	9.44	1.41	0.4299	0.5405
All Other Buses-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0004	0.0002		0.0006	0.0037	0.0001	0.0006
All Other Buses-NG			0.0003	0.0000	0.0000		0.0000				0.0000	0.0009	0.0001		0.0010	0.0000	0.0000	
LDA-Dsl			0.0000	0.0000			0.0000				0.0000	0.0003			0.0003	0.0000		
LDA-Elec			0				0				0				0			
LDA-Gas	0.0239	0.1003	0.3619	0.0153		0.0721	0.0874	0.1364	0.0239	0.1003	0.3480	2.85		0.9863	3.84	0.1109		0.1015
LDA-Phe	0.0011	0.0023	0.0148	0.0003		0.0044	0.0047	0.0062	0.0011	0.0023	0.0143	0.0483		0.0337	0.0820	0.0007		0.0030
LDT1-Dsl			0.0000	0.0000			0.0000				0.0000	0.0000			0.0000	0.0000		
LDT1-Elec			0				0				0				0			
LDT1-Gas	0.0019	0.0090	0.0299	0.0010		0.0048	0.0057	0.0124	0.0019	0.0090	0.0291	0.1755		0.0635	0.2390	0.0068		0.0068
LDT1-Phe	0.0000	0.0001	0.0005	0.0000		0.0001	0.0001	0.0002	0.0000	0.0001	0.0005	0.0015		0.0011	0.0025	0.0000		0.0001
LDT2-Dsl			0.0001	0.0001			0.0001				0.0001	0.0012			0.0012	0.0003		
LDT2-Elec			0				0				0				0			
LDT2-Gas	0.0142	0.0630	0.2356	0.0108		0.0518	0.0627	0.0860	0.0142	0.0630	0.2258	1.70		0.6757	2.38	0.0636		0.0676
LDT2-Phe	0.0003	0.0007	0.0047	0.0001		0.0014	0.0015	0.0020	0.0003	0.0007	0.0045	0.0144		0.0105	0.0249	0.0002		0.0009
LHD1-Dsl			0.0068	0.0058	0.0002		0.0060				0.0108	0.0148	0.0017		0.0165	0.0186	0.0021	
LHD1-Elec			0				0				0				0			
LHD1-Gas	0.0008	0.0082	0.0202	0.0004	0.0007	0.0032	0.0043	0.0061	0.0008	0.0082	0.0272	0.0579	0.0099	0.1267	0.1945	0.0016	0.0001	0.0155
LHD2-Dsl			0.0044	0.0038	0.0001		0.0039				0.0066	0.0098	0.0009		0.0107	0.0149	0.0012	
LHD2-Elec			0				0				0				0			
LHD2-Gas	0.0001	0.0010	0.0023	0.0000	0.0001	0.0003	0.0004	0.0008	0.0001	0.0010	0.0031	0.0053	0.0011	0.0144	0.0207	0.0002	0.0000	0.0015
MCY-Gas	0.0418	0.0460	0.1526	0.0236		0.0101	0.0337	0.0244	0.0418	0.0460	0.1458	0.3054		0.0876	0.3929	0.0150		0.0007
MDV-Dsl			0.0001	0.0001			0.0001				0.0001	0.0022			0.0022	0.0003		
MDV-Elec			0				0				0				0			
MDV-Gas	0.0100	0.0441	0.1608	0.0065		0.0323	0.0387	0.0620	0.0100	0.0441	0.1548	1.02		0.4110	1.43	0.0384		0.0421
MDV-Phe	0.0002	0.0005	0.0031	0.0001		0.0009	0.0009	0.0014	0.0002	0.0005	0.0030	0.0090		0.0068	0.0157	0.0001		0.0006
MH-Dsl			0.0002	0.0002			0.0002				0.0002	0.0005			0.0005	0.0055		
MH-Gas	0.0001	0.0000	0.0008	0.0000		0.0000	0.0000	0.0007	0.0001	0.0000	0.0008	0.0006		0.0001	0.0007	0.0008		0.0000
Motor Coach-Dsl			0.0001	0.0000	0.0001		0.0001				0.0001	0.0001	0.0013		0.0014	0.0026	0.0004	0.0005
OBUS-Elec			0				0				0				0			
OBUS-Gas	0.0000	0.0002	0.0005	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000	0.0002	0.0006	0.0002	0.0002	0.0017	0.0021	0.0003	0.0000	0.0002
PTO-Dsl			0.0001	0.0001			0.0001				0.0002	0.0010			0.0010	0.0139		
PTO-Elec			0				0				0				0			
SBUS-Dsl			0.0001	0.0000	0.0000		0.0001				0.0001	0.0002	0.0013		0.0015	0.0011	0.0011	0.0015
SBUS-Elec			0				0				0				0			
SBUS-Gas	0.0000	0.0001	0.0005	0.0000	0.0002	0.0000	0.0002	0.0001	0.0000	0.0001	0.0006	0.0002	0.0016	0.0006	0.0024	0.0001	0.0000	0.0000
SBUS-NG			0.0035	0.0000	0.0000		0.0000				0.0001	0.0074	0.0022		0.0096	0.0002	0.0003	
T6 CAIRP Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000
T6 CAIRP Class 4-Elec			0				0				0				0			
T6 CAIRP Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000
T6 CAIRP Class 5-Elec			0				0				0				0			
T6 CAIRP Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0001	0.0002	0.0000	0.0002
T6 CAIRP Class 6-Elec			0				0				0				0			
T6 CAIRP Class 7-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0004	0.0001		0.0005	0.0024	0.0001	0.0005
T6 CAIRP Class 7-Elec			0				0				0				0			
T6 Instate Delivery Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0003		0.0004	0.0005	0.0003	0.0007
T6 Instate Delivery Class 4-Elec			0				0				0				0			
T6 Instate Delivery Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0002		0.0003	0.0004	0.0002	0.0005
T6 Instate Delivery Class 5-Elec			0				0				0				0			
T6 Instate Delivery Class 6-Dsl			0.0001	0.0000	0.0000		0.0001				0.0002	0.0004	0.0015		0.0018	0.0024	0.0012	0.0030
T6 Instate Delivery Class 6-Elec			0				0				0				0			
T6 Instate Delivery Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0001	0.0002	0.0004		0.0006	0.0016	0.0004	0.0009
T6 Instate Delivery Class 7-Elec			0				0				0				0			
T6 Instate Delivery Class 7-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0002	0.0000		0.0003	0.0000	0.0000	
T6 Instate Other Class 4-Dsl			0.0001	0.0001	0.0000		0.0001				0.0002	0.0005	0.0021		0.0026	0.0028	0.0017	0.0036
T6 Instate Other Class 4-Elec			0				0				0				0			
T6 Instate Other Class 5-Dsl			0.0003	0.0001	0.0001		0.0003				0.0006	0.0011	0.0052		0.0064	0.0070	0.0041	0.0091
T6 Instate Other Class 5-Elec			0				0				0				0			
T6 Instate Other Class 6-Dsl			0.0003	0.0001	0.0001		0.0002				0.0005	0.0010	0.0046		0.0056	0.0063	0.0037	0.0080
T6 Instate Other Class 6-Elec			0				0				0				0			
T6 Instate Other Class 7-Dsl			0.0003	0.0001	0.0001		0.0002				0.0004	0.0011	0.0038		0.0049	0.0087	0.0039	0.0083
T6 Instate Other Class 7-Elec			0				0				0				0			
T6 Instate Other Class 7-NG			0.0005	0.0000	0.0000		0.0000				0.0000	0.0013	0.0005		0.0018	0.0000	0.0001	
T6 Instate Tractor Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0001	0.0001	0.0001
T6 Instate Tractor Class 6-Elec			0				0				0				0			
T6 Instate Tractor Class 7-Dsl			0.0003	0.0002	0.0001		0.0002				0.0003	0.0013	0.0034		0.0047	0.0096	0.0032	0.0069
T6 Instate Tractor Class 7-Elec			0				0				0				0			

Veh_Tech	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX
T6 Instate Tractor Class 7-NG			0.0006	0.0000	0.0000		0.0000				0.0000	0.0017	0.0004		0.0021	0.0000	0.0001	
T6 OOS Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 OOS Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 OOS Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0003	0.0001	0.0004
T6 OOS Class 7-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0003	0.0001		0.0004	0.0026	0.0001	0.0006
T6 Public Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0002	0.0002	0.0001	0.0001
T6 Public Class 4-Elec			0				0				0				0			
T6 Public Class 4-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0002	0.0001		0.0003	0.0000	0.0000	
T6 Public Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0003		0.0003	0.0004	0.0003	0.0002
T6 Public Class 5-Elec			0				0				0				0			
T6 Public Class 5-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0004	0.0002		0.0006	0.0000	0.0000	
T6 Public Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0004		0.0004	0.0004	0.0003	0.0002
T6 Public Class 6-Elec			0				0				0				0			
T6 Public Class 6-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0005	0.0003		0.0007	0.0000	0.0000	
T6 Public Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0001	0.0001	0.0006		0.0007	0.0008	0.0006	0.0004
T6 Public Class 7-Elec			0				0				0				0			
T6 Public Class 7-NG			0.0004	0.0000	0.0000		0.0000				0.0000	0.0009	0.0004		0.0014	0.0000	0.0001	
T6 Utility Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0001	0.0001	0.0000	0.0001
T6 Utility Class 5-Elec			0				0				0				0			
T6 Utility Class 5-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6 Utility Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Elec			0				0				0				0			
T6 Utility Class 6-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6 Utility Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Elec			0				0				0				0			
T6 Utility Class 7-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6TS-Elec			0				0				0				0			
T6TS-Gas	0.0000	0.0006	0.0018	0.0001	0.0001	0.0005	0.0007	0.0003	0.0000	0.0006	0.0027	0.0013	0.0022	0.0089	0.0123	0.0005	0.0000	0.0013
T7 CAIRP Class 8-Dsl			0.0145	0.0023	0.0104		0.0127				0.0163	0.0079	0.1532		0.1611	0.2473	0.0798	0.0361
T7 CAIRP Class 8-Elec			0				0				0				0			
T7 NNOOS Class 8-Dsl			0.0201	0.0035	0.0142		0.0177				0.0177	0.0117	0.2100		0.2217	0.4157	0.1679	0.0599
T7 NOOS Class 8-Dsl			0.0085	0.0013	0.0061		0.0074				0.0074	0.0044	0.0906		0.0950	0.1554	0.0725	0.0259
T7 Other Port Class 8-Dsl			0.0001	0.0000	0.0001		0.0001				0.0001	0.0002	0.0007		0.0010	0.0043	0.0004	0.0004
T7 Other Port Class 8-Elec			0				0				0				0			
T7 POAK Class 8-Dsl			0.0004	0.0001	0.0003		0.0004				0.0004	0.0006	0.0040		0.0046	0.0117	0.0023	0.0024
T7 POAK Class 8-Elec			0				0				0				0			
T7 POLA Class 8-Dsl			0.0004	0.0001	0.0002		0.0004				0.0004	0.0009	0.0035		0.0044	0.0176	0.0021	0.0022
T7 POLA Class 8-Elec			0				0				0				0			
T7 POLA Class 8-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0003	0.0001		0.0004	0.0000	0.0000	
T7 Public Class 8-Dsl			0.0004	0.0001	0.0002		0.0003				0.0005	0.0009	0.0027		0.0035	0.0102	0.0018	0.0041
T7 Public Class 8-Elec			0				0				0				0			
T7 Public Class 8-NG			0.0017	0.0000	0.0000		0.0000				0.0000	0.0064	0.0010		0.0074	0.0002	0.0001	
T7 SWCV Class 8-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0001	0.0005		0.0006	0.0019	0.0004	0.0006
T7 SWCV Class 8-Elec			0				0				0				0			
T7 SWCV Class 8-NG			0.0026	0.0000	0.0000		0.0000				0.0000	0.0603	0.0033		0.0636	0.0012	0.0001	
T7 Single Concrete/Transit Mix Class 8-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0002		0.0002	0.0003	0.0001	0.0001
T7 Single Concrete/Transit Mix Class 8-Elec			0				0				0				0			
T7 Single Concrete/Transit Mix Class 8-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0000		0.0001	0.0000	0.0000	
T7 Single Dump Class 8-Dsl			0.0002	0.0000	0.0001		0.0002				0.0003	0.0002	0.0017		0.0019	0.0033	0.0009	0.0015
T7 Single Dump Class 8-Elec			0				0				0				0			
T7 Single Dump Class 8-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0005	0.0002		0.0007	0.0000	0.0000	
T7 Single Other Class 8-Dsl			0.0012	0.0002	0.0008		0.0011				0.0021	0.0012	0.0122		0.0134	0.0237	0.0065	0.0106
T7 Single Other Class 8-Elec			0				0				0				0			
T7 Single Other Class 8-NG			0.0014	0.0000	0.0000		0.0000				0.0000	0.0036	0.0013		0.0050	0.0002	0.0002	
T7 Tractor Class 8-Dsl			0.0104	0.0014	0.0077		0.0091				0.0109	0.0067	0.1137		0.1204	0.1664	0.0680	0.1078
T7 Tractor Class 8-Elec			0				0				0				0			
T7 Tractor Class 8-NG			0.0040	0.0000	0.0000		0.0001				0.0001	0.0082	0.0055		0.0137	0.0004	0.0007	
T7 Utility Class 8-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0003	0.0000	0.0004
T7 Utility Class 8-Elec			0				0				0				0			
T7IS-Elec			0				0				0				0			
T7IS-Gas	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008		0.0000	0.0008	0.0001		0.0000
UBUS-Dsl			0.0000	0.0000			0.0000				0.0000	0.0000			0.0000	0.0000		
UBUS-Elec			0				0				0				0			
UBUS-Gas	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002		0.0001	0.0004	0.0000		0.0000
UBUS-NG			0.0000	0.0000			0.0000				0.0000	0.0000			0.0000	0.0000		

Veh_Tech	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX
All Vehicles	3.12	0.0308	0.0003	0.0010	0.0321	0.1388	0.2068	0.4013	0.0293	0.0003	0.0010	0.0305	0.0347	0.0724	0.1491	0.0399
All Other Buses-Dsl	0.0056	0.0000	0.0000		0.0000	0.0000	0.0002	0.0002	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000
All Other Buses-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
LDA-Dsl	0.0000	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000
LDA-Elec	0				0	0.0061	0.0034	0.0095				0	0.0015	0.0012	0.0027	
LDA-Gas	0.2123	0.0025		0.0005	0.0030	0.0455	0.0445	0.0930	0.0023		0.0005	0.0028	0.0114	0.0156	0.0297	0.0125
LDA-Phe	0.0036	0.0000		0.0000	0.0001	0.0022	0.0011	0.0033	0.0000		0.0000	0.0001	0.0005	0.0004	0.0010	0.0003
LDT1-Dsl	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000
LDT1-Elec	0				0	0.0001	0.0000	0.0001				0	0.0000	0.0000	0.0000	
LDT1-Gas	0.0136	0.0002		0.0000	0.0002	0.0027	0.0029	0.0057	0.0001		0.0000	0.0002	0.0007	0.0010	0.0019	0.0008
LDT1-Phe	0.0001	0.0000		0.0000	0.0000	0.0001	0.0000	0.0001	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LDT2-Dsl	0.0003	0.0000			0.0000	0.0001	0.0001	0.0002	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000
LDT2-Elec	0				0	0.0007	0.0004	0.0010				0	0.0002	0.0001	0.0003	
LDT2-Gas	0.1312	0.0013		0.0003	0.0016	0.0232	0.0252	0.0500	0.0012		0.0002	0.0015	0.0058	0.0088	0.0161	0.0076
LDT2-Phe	0.0011	0.0000		0.0000	0.0000	0.0006	0.0003	0.0010	0.0000		0.0000	0.0000	0.0002	0.0001	0.0003	0.0001
LHD1-Dsl	0.0341	0.0013	0.0001		0.0013	0.0008	0.0049	0.0131	0.0012	0.0000		0.0013	0.0002	0.0017	0.0058	0.0004
LHD1-Elec	0				0	0.0011	0.0056	0.0000				0	0.0003	0.0020	0.0000	
LHD1-Gas	0.0292	0.0001		0.0000	0.0001	0.0008	0.0075	0.0166	0.0001		0.0000	0.0001	0.0002	0.0026	0.0058	0.0007
LHD2-Dsl	0.0238	0.0009	0.0000		0.0009	0.0004	0.0028	0.0074	0.0008	0.0000		0.0009	0.0001	0.0010	0.0034	0.0002
LHD2-Elec	0				0	0.0003	0.0015	0.0000				0	0.0001	0.0005	0.0000	
LHD2-Gas	0.0030	0.0000		0.0000	0.0000	0.0001	0.0010	0.0020	0.0000		0.0000	0.0000	0.0000	0.0003	0.0007	0.0001
MCY-Gas	0.0158	0.0001		0.0000	0.0001	0.0001	0.0004	0.0006	0.0001		0.0000	0.0001	0.0000	0.0001	0.0003	0.0001
MDV-Dsl	0.0003	0.0000			0.0000	0.0001	0.0002	0.0003	0.0000			0.0000	0.0000	0.0001	0.0001	0.0001
MDV-Elec	0				0	0.0006	0.0003	0.0009				0	0.0002	0.0001	0.0003	
MDV-Gas	0.0806	0.0008		0.0002	0.0009	0.0134	0.0145	0.0289	0.0007		0.0002	0.0009	0.0034	0.0051	0.0093	0.0053
MDV-Phe	0.0007	0.0000		0.0000	0.0000	0.0004	0.0002	0.0006	0.0000		0.0000	0.0000	0.0001	0.0001	0.0002	0.0001
MH-Dsl	0.0055	0.0001			0.0001	0.0000	0.0001	0.0002	0.0001			0.0001	0.0000	0.0000	0.0001	0.0000
MH-Gas	0.0009	0.0000		0.0000	0.0000	0.0000	0.0002	0.0002	0.0000		0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
Motor Coach-Dsl	0.0058	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000
OBUS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
OBUS-Gas	0.0020	0.0000		0.0000	0.0000	0.0000	0.0001	0.0002	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
PTO-Dsl	0.0325	0.0000			0.0000			0.0000	0.0000			0.0000			0.0000	0.0001
PTO-Elec	0				0			0				0			0	
SBUS-Dsl	0.0109	0.0000	0.0000		0.0000	0.0000	0.0002	0.0005	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000
SBUS-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
SBUS-Gas	0.0004	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SBUS-NG	0.0009	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	
T6 CAIRP Class 4-Dsl	0.0003	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 5-Dsl	0.0004	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 6-Dsl	0.0015	0.0000	0.0000		0.0000	0.0000	0.0000	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 CAIRP Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 7-Dsl	0.0052	0.0001	0.0000		0.0001	0.0002	0.0005	0.0010	0.0001	0.0000		0.0001	0.0000	0.0002	0.0004	0.0001
T6 CAIRP Class 7-Elec	0				0	0.0000	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 4-Dsl	0.0051	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 4-Elec	0				0	0.0000	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 5-Dsl	0.0036	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 6-Dsl	0.0219	0.0000	0.0000		0.0000	0.0001	0.0003	0.0010	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0001
T6 Instate Delivery Class 6-Elec	0				0	0.0001	0.0002	0.0000				0	0.0000	0.0001	0.0000	
T6 Instate Delivery Class 7-Dsl	0.0056	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 7-Elec	0				0	0.0000	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 7-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Instate Other Class 4-Dsl	0.0277	0.0000	0.0000		0.0000	0.0001	0.0005	0.0015	0.0000	0.0000		0.0000	0.0000	0.0002	0.0006	0.0001
T6 Instate Other Class 4-Elec	0				0	0.0002	0.0003	0.0000				0	0.0000	0.0001	0.0000	
T6 Instate Other Class 5-Dsl	0.0689	0.0001	0.0000		0.0001	0.0003	0.0012	0.0038	0.0001	0.0000		0.0001	0.0001	0.0004	0.0014	0.0003
T6 Instate Other Class 5-Elec	0				0	0.0004	0.0008	0.0000				0	0.0001	0.0003	0.0000	
T6 Instate Other Class 6-Dsl	0.0612	0.0001	0.0000		0.0001	0.0003	0.0011	0.0034	0.0001	0.0000		0.0001	0.0001	0.0004	0.0012	0.0002
T6 Instate Other Class 6-Elec	0				0	0.0004	0.0007	0.0000				0	0.0001	0.0003	0.0000	
T6 Instate Other Class 7-Dsl	0.0428	0.0001	0.0000		0.0001	0.0003	0.0009	0.0024	0.0001	0.0000		0.0001	0.0001	0.0003	0.0009	0.0002
T6 Instate Other Class 7-Elec	0				0	0.0002	0.0004	0.0000				0	0.0001	0.0002	0.0000	
T6 Instate Other Class 7-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Instate Tractor Class 6-Dsl	0.0010	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Instate Tractor Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Tractor Class 7-Dsl	0.0305	0.0001	0.0000		0.0001	0.0003	0.0012	0.0020	0.0001	0.0000		0.0001	0.0001	0.0004	0.0007	0.0002
T6 Instate Tractor Class 7-Elec	0				0	0.0001	0.0002	0.0000				0	0.0000	0.0001	0.0000	

Veh_Tech	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX
T6 Instate Tractor Class 7-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 OOS Class 4-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 5-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 6-Dsl	0.0009	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 7-Dsl	0.0033	0.0001	0.0000		0.0001	0.0001	0.0005	0.0007	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001
T6 Public Class 4-Dsl	0.0010	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 4-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 5-Dsl	0.0022	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 5-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 6-Dsl	0.0026	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Public Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 6-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 7-Dsl	0.0037	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Public Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 7-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 5-Dsl	0.0007	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 5-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 6-Dsl	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 6-NG	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 7-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 7-NG	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	
T6TS-Elec	0				0	0.0001	0.0002	0.0000				0	0.0000	0.0001	0.0000	
T6TS-Gas	0.0058	0.0000		0.0000	0.0000	0.0001	0.0003	0.0010	0.0000		0.0000	0.0000	0.0000	0.0001	0.0003	0.0001
T7 CAIRP Class 8-Dsl	0.5861	0.0061	0.0000		0.0061	0.0074	0.0167	0.0391	0.0058	0.0000		0.0059	0.0018	0.0059	0.0176	0.0025
T7 CAIRP Class 8-Elec	0				0	0.0021	0.0024	0.0000				0	0.0005	0.0008	0.0000	
T7 NNOOS Class 8-Dsl	0.6435	0.0091	0.0001		0.0092	0.0112	0.0255	0.0459	0.0087	0.0001		0.0088	0.0028	0.0089	0.0205	0.0036
T7 NOOS Class 8-Dsl	0.2537	0.0035	0.0000		0.0035	0.0041	0.0092	0.0169	0.0034	0.0000		0.0034	0.0010	0.0032	0.0076	0.0013
T7 Other Port Class 8-Dsl	0.0075	0.0001	0.0000		0.0001	0.0001	0.0003	0.0006	0.0001	0.0000		0.0001	0.0000	0.0001	0.0003	0.0000
T7 Other Port Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 POAK Class 8-Dsl	0.0238	0.0002	0.0000		0.0002	0.0003	0.0009	0.0017	0.0001	0.0000		0.0001	0.0001	0.0003	0.0007	0.0001
T7 POAK Class 8-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T7 POLA Class 8-Dsl	0.0296	0.0002	0.0000		0.0002	0.0005	0.0012	0.0023	0.0002	0.0000		0.0002	0.0001	0.0004	0.0009	0.0002
T7 POLA Class 8-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T7 POLA Class 8-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Public Class 8-Dsl	0.0323	0.0001	0.0000		0.0001	0.0002	0.0007	0.0017	0.0001	0.0000		0.0001	0.0001	0.0002	0.0006	0.0001
T7 Public Class 8-Elec	0				0	0.0002	0.0003	0.0000				0	0.0001	0.0001	0.0000	
T7 Public Class 8-NG	0.0006	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	
T7 SWCV Class 8-Dsl	0.0038	0.0000	0.0000		0.0000	0.0001	0.0004	0.0007	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0001
T7 SWCV Class 8-Elec	0				0	0.0002	0.0007	0.0000				0	0.0001	0.0002	0.0000	
T7 SWCV Class 8-NG	0.0017	0.0000	0.0000		0.0000	0.0002	0.0013	0.0028	0.0000	0.0000		0.0000	0.0001	0.0004	0.0009	
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0018	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T7 Single Concrete/Transit Mix Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 Single Concrete/Transit Mix Class 8-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Single Dump Class 8-Dsl	0.0138	0.0001	0.0000		0.0001	0.0001	0.0003	0.0009	0.0001	0.0000		0.0001	0.0000	0.0001	0.0004	0.0000
T7 Single Dump Class 8-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0001	0.0000	
T7 Single Dump Class 8-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Single Other Class 8-Dsl	0.1051	0.0004	0.0000		0.0004	0.0008	0.0020	0.0068	0.0004	0.0000		0.0004	0.0002	0.0007	0.0027	0.0003
T7 Single Other Class 8-Elec	0				0	0.0009	0.0011	0.0000				0	0.0002	0.0004	0.0000	
T7 Single Other Class 8-NG	0.0007	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	
T7 Tractor Class 8-Dsl	0.4988	0.0031	0.0000		0.0031	0.0051	0.0122	0.0247	0.0029	0.0000		0.0030	0.0013	0.0043	0.0103	0.0017
T7 Tractor Class 8-Elec	0				0	0.0011	0.0013	0.0000				0	0.0003	0.0004	0.0000	
T7 Tractor Class 8-NG	0.0013	0.0000	0.0000		0.0000	0.0001	0.0002	0.0003	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	
T7 Utility Class 8-Dsl	0.0018	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T7 Utility Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7IS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7IS-Gas	0.0002	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Dsl	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Elec	0				0	0.0002	0.0008	0.0010				0	0.0001	0.0003	0.0003	
UBUS-Gas	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-NG	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	

Veh_Tech	SOx_IDLEX	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
All Vehicles	0.0008	0.0008	0.0415	0.7089	303.4	122.9	2.07
All Other Buses-Dsl	0.0000		0.0000	0.0007		0.3168	
All Other Buses-NG			0	0.0003			0.0283
LDA-Dsl			0.0000	0.0000		0.0517	
LDA-Elec			0				
LDA-Gas		0.0003	0.0128	0.2386	136.3		
LDA-Phe		0.0000	0.0003	0.0046	3.27		
LDT1-Dsl			0.0000	0.0000		0.0001	
LDT1-Elec			0				
LDT1-Gas		0.0000	0.0009	0.0138	9.16		
LDT1-Phe		0.0000	0.0000	0.0001	0.1006		
LDT2-Dsl			0.0000	0.0000		0.2424	
LDT2-Elec			0				
LDT2-Gas		0.0002	0.0078	0.1214	83.3		
LDT2-Phe		0.0000	0.0001	0.0014	0.9881		
LHD1-Dsl	0.0000		0.0004	0.0136		3.41	
LHD1-Elec			0				
LHD1-Gas	0.0000	0.0000	0.0007	0.0043	7.71		
LHD2-Dsl	0.0000		0.0002	0.0064		1.95	
LHD2-Elec			0				
LHD2-Gas	0.0000	0.0000	0.0001	0.0005	0.6187		
MCY-Gas		0.0000	0.0001	0.0003	0.6638		
MDV-Dsl			0.0001	0.0001		0.5368	
MDV-Elec			0				
MDV-Gas		0.0002	0.0055	0.0699	58.4		
MDV-Phe		0.0000	0.0001	0.0009	0.6275		
MH-Dsl			0.0000	0.0005		0.2119	
MH-Gas		0.0000	0.0001	0.0002	0.7648		
Motor Coach-Dsl	0.0000		0.0000	0.0006		0.4024	
OBUS-Elec			0				
OBUS-Gas	0.0000	0.0000	0.0000	0.0001	0.2112		
PTO-Dsl			0.0001	0.0012		0.8531	
PTO-Elec			0				
SBUS-Dsl	0.0000		0.0000	0.0009		0.3876	
SBUS-Elec			0				
SBUS-Gas	0.0000	0.0000	0.0000	0.0000	0.0826		
SBUS-NG			0	0.0013			0.1806
T6 CAIRP Class 4-Dsl	0.0000		0.0000	0.0001		0.0269	
T6 CAIRP Class 4-Elec			0				
T6 CAIRP Class 5-Dsl	0.0000		0.0000	0.0001		0.0369	
T6 CAIRP Class 5-Elec			0				
T6 CAIRP Class 6-Dsl	0.0000		0.0000	0.0002		0.0966	
T6 CAIRP Class 6-Elec			0				
T6 CAIRP Class 7-Dsl	0.0000		0.0001	0.0028		1.01	
T6 CAIRP Class 7-Elec			0				
T6 Instate Delivery Class 4-Dsl	0.0000		0.0000	0.0004		0.1582	
T6 Instate Delivery Class 4-Elec			0				
T6 Instate Delivery Class 5-Dsl	0.0000		0.0000	0.0003		0.1110	
T6 Instate Delivery Class 5-Elec			0				
T6 Instate Delivery Class 6-Dsl	0.0000		0.0001	0.0015		0.6748	
T6 Instate Delivery Class 6-Elec			0				
T6 Instate Delivery Class 7-Dsl	0.0000		0.0000	0.0006		0.2574	
T6 Instate Delivery Class 7-Elec			0				
T6 Instate Delivery Class 7-NG			0	0.0001			0.0074
T6 Instate Other Class 4-Dsl	0.0000		0.0001	0.0024		1.04	
T6 Instate Other Class 4-Elec			0				
T6 Instate Other Class 5-Dsl	0.0000		0.0003	0.0060		2.58	
T6 Instate Other Class 5-Elec			0				
T6 Instate Other Class 6-Dsl	0.0000		0.0002	0.0054		2.29	
T6 Instate Other Class 6-Elec			0				
T6 Instate Other Class 7-Dsl	0.0000		0.0002	0.0046		1.98	
T6 Instate Other Class 7-Elec			0				
T6 Instate Other Class 7-NG			0	0.0005			0.0572
T6 Instate Tractor Class 6-Dsl	0.0000		0.0000	0.0001		0.0423	
T6 Instate Tractor Class 6-Elec			0				
T6 Instate Tractor Class 7-Dsl	0.0000		0.0002	0.0058		2.22	
T6 Instate Tractor Class 7-Elec			0				

Veh_Tech	SOx_IDLEX	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
T6 Instate Tractor Class 7-NG			0	0.0007			0.0677
T6 OOS Class 4-Dsl	0.0000		0.0000	0.0001		0.0370	
T6 OOS Class 5-Dsl	0.0000		0.0000	0.0001		0.0507	
T6 OOS Class 6-Dsl	0.0000		0.0000	0.0003		0.1330	
T6 OOS Class 7-Dsl	0.0000		0.0001	0.0025		0.8632	
T6 Public Class 4-Dsl	0.0000		0.0000	0.0001		0.0454	
T6 Public Class 4-Elec			0				
T6 Public Class 4-NG			0	0.0001			0.0081
T6 Public Class 5-Dsl	0.0000		0.0000	0.0002		0.0965	
T6 Public Class 5-Elec			0				
T6 Public Class 5-NG			0	0.0001			0.0178
T6 Public Class 6-Dsl	0.0000		0.0000	0.0002		0.1170	
T6 Public Class 6-Elec			0				
T6 Public Class 6-NG			0	0.0002			0.0212
T6 Public Class 7-Dsl	0.0000		0.0000	0.0005		0.2192	
T6 Public Class 7-Elec			0				
T6 Public Class 7-NG			0	0.0003			0.0402
T6 Utility Class 5-Dsl	0.0000		0.0000	0.0001		0.0281	
T6 Utility Class 5-Elec			0				
T6 Utility Class 5-NG			0	0.0000			0.0001
T6 Utility Class 6-Dsl	0.0000		0.0000	0.0000		0.0053	
T6 Utility Class 6-Elec			0				
T6 Utility Class 6-NG			0	0.0000			0.0000
T6 Utility Class 7-Dsl	0.0000		0.0000	0.0000		0.0073	
T6 Utility Class 7-Elec			0				
T6 Utility Class 7-NG			0	0.0000			0.0000
T6TS-Elec			0				
T6TS-Gas	0.0000	0.0000	0.0001	0.0003	1.20		
T7 CAIRP Class 8-Dsl	0.0002		0.0027	0.0449		25.1	
T7 CAIRP Class 8-Elec			0				
T7 NNOOS Class 8-Dsl	0.0002		0.0038	0.0684		36.3	
T7 NOOS Class 8-Dsl	0.0001		0.0014	0.0249		13.3	
T7 Other Port Class 8-Dsl	0.0000		0.0000	0.0008		0.4352	
T7 Other Port Class 8-Elec			0				
T7 POAK Class 8-Dsl	0.0000		0.0001	0.0020		1.16	
T7 POAK Class 8-Elec			0				
T7 POLA Class 8-Dsl	0.0000		0.0002	0.0028		1.60	
T7 POLA Class 8-Elec			0				
T7 POLA Class 8-NG			0	0.0001			0.0087
T7 Public Class 8-Dsl	0.0000		0.0001	0.0013		0.9241	
T7 Public Class 8-Elec			0				
T7 Public Class 8-NG			0	0.0008			0.1452
T7 SWCV Class 8-Dsl	0.0000		0.0001	0.0003		0.5137	
T7 SWCV Class 8-Elec			0				
T7 SWCV Class 8-NG			0	0.0035			0.9874
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000		0.0000	0.0001		0.0545	
T7 Single Concrete/Transit Mix Class 8-Elec			0				
T7 Single Concrete/Transit Mix Class 8-NG			0	0.0000			0.0022
T7 Single Dump Class 8-Dsl	0.0000		0.0000	0.0007		0.4359	
T7 Single Dump Class 8-Elec			0				
T7 Single Dump Class 8-NG			0	0.0001			0.0174
T7 Single Other Class 8-Dsl	0.0000		0.0003	0.0051		3.19	
T7 Single Other Class 8-Elec			0				
T7 Single Other Class 8-NG			0	0.0009			0.1271
T7 Tractor Class 8-Dsl	0.0001		0.0018	0.0311		17.3	
T7 Tractor Class 8-Elec			0				
T7 Tractor Class 8-NG			0	0.0023			0.3388
T7 Utility Class 8-Dsl	0.0000		0.0000	0.0001		0.0447	
T7 Utility Class 8-Elec			0				
T7IS-Elec			0				
T7IS-Gas		0.0000	0.0000	0.0000	0.0048		
UBUS-Dsl			0.0000	0.0000		0.0028	
UBUS-Elec			0				
UBUS-Gas		0.0000	0.0000	0.0000	0.0362		
UBUS-NG			0	0.0002			0.0177

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_TOTEX	TOG_DIURN
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Vehicles	All Vehicles	274,832.5	11,566,123.5	10,161,490.2	1,404,633.3	1,439,633.1	0.1068	0.0490	0.1849	0.3407	0.3147
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-Dsl	All Other Buses - Dsl	66.1	2,892.8	2,892.8	0	587.9	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-NG	All Other Buses - Oth	5.34	219.9	219.9	0	47.5	0.0002	0.0000		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Dsl	LDA - Dsl	68.9	2,756.8	2,756.8	0	311.5	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Elec	LDA - Oth	15,776.7	646,873.4	0	646,873.4	73,380.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Gas	LDA - Gas	114,049.1	4,791,210.7	4,791,210.7	0	526,215.0	0.0208		0.0733	0.0941	0.1267
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Phe	LDA - Gas	5,376.0	226,705.8	92,364.2	134,341.7	22,229.8	0.0004		0.0045	0.0048	0.0058
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Dsl	LDT1 - Dsl	0.0841	3.34	3.34	0	0.3846	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Elec	LDT1 - Oth	223.0	9,043.7	0	9,043.7	1,033.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Gas	LDT1 - Gas	7,236.3	279,295.0	279,295.0	0	32,579.2	0.0013		0.0048	0.0061	0.0115
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Phe	LDT1 - Gas	170.4	6,916.0	2,814.5	4,101.5	704.6	0.0000		0.0001	0.0002	0.0002
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Dsl	LDT2 - Dsl	232.4	9,323.7	9,323.7	0	1,067.0	0.0001			0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Elec	LDT2 - Oth	2,462.8	69,729.5	0	69,729.5	11,445.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Gas	LDT2 - Gas	61,311.9	2,443,389.0	2,443,389.0	0	280,269.1	0.0148		0.0527	0.0674	0.0798
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Phe	LDT2 - Gas	1,680.2	67,620.2	27,556.0	40,064.2	6,947.7	0.0001		0.0014	0.0015	0.0018
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Dsl	LHD1 - Dsl	1,561.9	53,077.8	53,077.8	0	19,646.8	0.0061	0.0002		0.0063	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Elec	LHD1 - Oth	2,731.2	121,066.0	0	121,066.0	38,388.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Gas	LHD1 - Gas	2,196.6	81,407.1	81,407.1	0	32,725.6	0.0005	0.0010	0.0032	0.0047	0.0057
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Dsl	LHD2 - Dsl	808.8	25,728.5	25,728.5	0	10,173.3	0.0040	0.0001		0.0041	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Elec	LHD2 - Oth	646.1	27,950.9	0	27,950.9	8,548.4				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Gas	LHD2 - Gas	246.3	8,816.3	8,816.3	0	3,670.1	0.0000	0.0001	0.0003	0.0004	0.0007
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MCY-Gas	MCY - Gas	4,893.5	27,730.9	27,730.9	0	9,787.1	0.0276		0.0102	0.0378	0.0226
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Dsl	MDV - Dsl	419.5	15,631.4	15,631.4	0	1,858.9	0.0001			0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Elec	MDV - Oth	2,277.5	63,733.8	0	63,733.8	10,539.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Gas	MDV - Gas	36,748.4	1,413,960.8	1,413,960.8	0	165,514.1	0.0088		0.0328	0.0415	0.0575
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Phe	MDV - Gas	1,078.4	42,517.2	17,337.8	25,179.3	4,459.4	0.0001		0.0009	0.0010	0.0013
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Dsl	MH - Dsl	188.1	1,833.2	1,833.2	0	18.8	0.0002			0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Gas	MH - Gas	274.7	3,136.3	3,136.3	0	27.5	0.0000		0.0000	0.0001	0.0006
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	Motor Coach-Dsl	Motor Coach - Dsl	18.9	2,386.7	2,386.7	0	434.6	0.0000	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Elec	OBUS - Oth	21.3	1,412.5	0	1,412.5	426.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Gas	OBUS - Gas	30.2	1,089.2	1,089.2	0	605.0	0.0000	0.0000	0.0001	0.0002	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Dsl	PTO-Dsl		4,650.2	4,650.2	0		0.0001			0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Elec	PTO-Oth		4,960.6	0	4,960.6					0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Dsl	SBUS - Dsl	159.2	3,280.0	3,280.0	0	2,304.8	0.0000	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Elec	SBUS - Oth	16.0	5,167.3	0	5,167.3	2,681.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Gas	SBUS - Gas	16.4	877.9	877.9	0	65.6	0.0000	0.0003	0.0000	0.0003	0.0001
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-NG	SBUS-Oth	51.0	1,036.8	1,036.8	0	739.1	0.0026	0.0007		0.0033	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	3.35	248.8	248.8	0	77.0	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	4.94	380.8	0	380.8	113.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	4.11	341.5	341.5	0	94.5	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	6.06	522.1	0	522.1	139.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	18.8	891.0	891.0	0	430.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	27.7	1,365.6	0	1,365.6	637.4				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	51.7	10,662.1	10,662.1	0	1,187.2	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	16.4	3,492.8	0	3,492.8	376.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	41.0	1,371.3	1,371.3	0	585.1	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	50.8	1,777.6	0	1,777.6	724.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	28.7	961.8	961.8	0	410.2	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	35.7	1,249.6	0	1,249.6	509.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	174.9	5,850.1	5,850.1	0	2,496.1	0.0000	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	217.4	7,601.6	0	7,601.6	3,102.4				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	44.1	2,252.4	2,252.4	0	629.5	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	33.9	1,799.1	0	1,799.1	484.4				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	0.9468	48.9	48.9	0	13.5	0.0000	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	233.9	9,298.6	9,298.6	0	2,704.3	0.0001	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	289.9	12,523.2	0	12,523.2	3,351.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	581.2	23,112.9	23,112.9	0	6,718.4	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	720.8	31,158.3	0	31,158.3	8,332.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	515.9	20,496.2	20,496.2	0	5,963.4	0.0001	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	638.7	27,577.1	0	27,577.1	7,383.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	427.3	17,759.7	17,759.7	0	4,939.9	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	316.0	16,324.7	0	16,324.7	3,653.0				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	9.86	417.8	417.8	0	114.0	0.0003	0.0001		0.0005	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	8.21	382.0	382.0	0	94.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	10.18	524.9	0	524.9	117.7				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	377.9	22,292.0	22,292.0	0	4,368.7	0.0002	0.0001		0.0003	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	88.9	6,012.1	0	6,012.1	1,027.5				0	

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	Population	Total_VMT	cVMT	eVMT	Trips	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_TOTEX	TOG_DIURN
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	8.81	525.8	525.8	0	101.9	0.0004	0.0001		0.0005	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	4.87	364.5	364.5	0	112.0	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	5.99	500.0	500.0	0	137.5	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	27.2	1,306.6	1,306.6	0	626.1	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	33.6	9,500.6	9,500.6	0	772.2	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	10.7	369.1	369.1	0	55.0	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Elec	T6 Public-Oth	11.4	437.6	0	437.6	58.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-NG	T6 Public-NG	1.47	50.7	50.7	0	7.52	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	22.8	782.5	782.5	0	116.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Elec	T6 Public-Oth	24.0	919.4	0	919.4	123.2				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-NG	T6 Public-NG	3.21	110.3	110.3	0	16.5	0.0001	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	27.7	951.9	951.9	0	142.1	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Elec	T6 Public-Oth	29.4	1,120.2	0	1,120.2	150.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-NG	T6 Public-NG	3.83	132.0	132.0	0	19.6	0.0001	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	43.6	1,829.7	1,829.7	0	223.5	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Elec	T6 Public-Oth	35.9	1,675.3	0	1,675.3	184.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-NG	T6 Public-NG	6.13	257.5	257.5	0	31.5	0.0003	0.0001		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	6.30	252.4	252.4	0	80.7	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	9.51	388.2	0	388.2	121.7				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-NG	T6 Utility-NG	0.0142	0.5696	0.5696	0	0.1821	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	1.19	47.7	47.7	0	15.2	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	1.80	73.4	0	73.4	23.0				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-NG	T6 Utility-NG	0.0027	0.1077	0.1077	0	0.0344	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	1.33	65.7	65.7	0	17.0	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	2.00	102.8	0	102.8	25.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-NG	T6 Utility-NG	0.0030	0.1482	0.1482	0	0.0383	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Elec	T6TS - Gas	123.9	8,137.9	0	8,137.9	2,479.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Gas	T6TS - Gas	118.9	6,142.7	6,142.7	0	2,379.0	0.0001	0.0002	0.0005	0.0008	0.0003
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	836.7	172,070.3	172,070.3	0	19,227.2	0.0025	0.0110		0.0134	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	232.1	49,424.7	0	49,424.7	5,333.4				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	924.2	261,875.4	261,875.4	0	21,237.1	0.0037	0.0150		0.0187	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	398.7	95,134.7	95,134.7	0	9,162.9	0.0014	0.0065		0.0079	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	12.3	2,934.6	2,934.6	0	201.6	0.0000	0.0001		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	2.85	740.1	0	740.1	46.5				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	66.3	7,657.4	7,657.4	0	1,084.3	0.0001	0.0003		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	15.5	1,767.4	0	1,767.4	253.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	58.3	10,704.6	10,704.6	0	954.2	0.0001	0.0003		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	11.2	2,038.6	0	2,038.6	183.6				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-NG	T7 POLA-NG	0.2806	51.5	51.5	0	4.59	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	130.8	5,258.0	5,258.0	0	671.1	0.0002	0.0002		0.0004	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Elec	T7 Public-Oth	102.7	4,686.2	0	4,686.2	526.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-NG	T7 Public-NG	16.4	663.5	663.5	0	84.3	0.0013	0.0003		0.0016	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	22.1	1,437.3	1,437.3	0	101.8	0.0001	0.0000		0.0001	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	83.5	5,397.7	0	5,397.7	384.1				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	78.8	5,105.5	5,105.5	0	362.5	0.0021	0.0003		0.0024	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	5.40	342.1	342.1	0	50.9	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	7.41	492.8	0	492.8	69.8				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	0.1971	12.5	12.5	0	1.86	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	53.3	2,654.6	2,654.6	0	502.3	0.0000	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	45.8	2,774.0	0	2,774.0	431.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	1.93	96.2	96.2	0	18.2	0.0001	0.0001		0.0002	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	374.8	19,604.3	19,604.3	0	3,530.9	0.0002	0.0009		0.0011	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	345.5	21,715.7	0	21,715.7	3,254.9				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-NG	T7 Single-NG	13.5	709.5	709.5	0	127.3	0.0009	0.0004		0.0013	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1,875.6	119,095.4	119,095.4	0	27,252.2	0.0015	0.0081		0.0097	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	361.8	24,973.8	0	24,973.8	5,256.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	29.4	1,863.1	1,863.1	0	426.7	0.0021	0.0016		0.0037	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	6.55	269.1	269.1	0	83.8	0.0000	0.0000		0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	5.15	237.1	0	237.1	66.0				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Elec	T7IS - Gas	0.1686	26.1	0	26.1	3.37				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Gas	T7IS - Gas	0.1681	21.4	21.4	0	3.36	0.0000		0.0000	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Dsl	UBUS - Dsl	0.5557	40.1	40.1	0	2.22	0.0000			0.0000	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Elec	UBUS - Oth	116.6	11,570.4	0	11,570.4	466.3				0	
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Gas	UBUS - Gas	5.42	343.0	343.0	0	21.7	0.0000		0.0000	0.0000	0.0000
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-NG	UBUS - NG	2.24	161.6	161.6	0	8.95	0.0000			0.0000	

Veh_Tech	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX
All Vehicles	0.0878	0.2562	0.9994	0.0733	0.0393	0.1690	0.2815	0.3147	0.0878	0.2562	0.9645	5.87	0.6057	2.25	8.73	1.31	0.3991	0.5018
All Other Buses-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0004	0.0002		0.0005	0.0034	0.0001	0.0006
All Other Buses-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0008	0.0001		0.0009	0.0000	0.0000	
LDA-Dsl			0.0000	0.0000			0.0000				0.0000	0.0003			0.0003	0.0000		
LDA-Elec			0				0				0				0			
LDA-Gas	0.0222	0.0932	0.3361	0.0143		0.0670	0.0812	0.1267	0.0222	0.0932	0.3232	2.63		0.9156	3.55	0.1031		0.0942
LDA-Phe	0.0010	0.0022	0.0138	0.0003		0.0041	0.0043	0.0058	0.0010	0.0022	0.0133	0.0446		0.0312	0.0758	0.0006		0.0028
LDT1-Dsl			0.0000	0.0000			0.0000				0.0000	0.0000			0.0000	0.0000		
LDT1-Elec			0				0				0				0			
LDT1-Gas	0.0018	0.0084	0.0278	0.0009		0.0044	0.0053	0.0115	0.0018	0.0084	0.0270	0.1619		0.0589	0.2209	0.0064		0.0063
LDT1-Phe	0.0000	0.0001	0.0004	0.0000		0.0001	0.0001	0.0002	0.0000	0.0001	0.0004	0.0014		0.0010	0.0023	0.0000		0.0001
LDT2-Dsl			0.0001	0.0001			0.0001				0.0001	0.0011			0.0011	0.0003		
LDT2-Elec			0				0				0				0			
LDT2-Gas	0.0131	0.0585	0.2189	0.0101		0.0481	0.0582	0.0798	0.0131	0.0585	0.2097	1.57		0.6273	2.20	0.0592		0.0628
LDT2-Phe	0.0003	0.0007	0.0043	0.0001		0.0013	0.0013	0.0018	0.0003	0.0007	0.0042	0.0133		0.0098	0.0231	0.0002		0.0009
LHD1-Dsl			0.0063	0.0054	0.0002		0.0055				0.0101	0.0137	0.0016		0.0153	0.0173	0.0019	
LHD1-Elec			0				0				0				0			
LHD1-Gas	0.0008	0.0076	0.0188	0.0003	0.0007	0.0030	0.0040	0.0057	0.0008	0.0076	0.0253	0.0538	0.0092	0.1177	0.1806	0.0015	0.0001	0.0144
LHD2-Dsl			0.0041	0.0035	0.0001		0.0036				0.0062	0.0091	0.0008		0.0099	0.0138	0.0011	
LHD2-Elec			0				0				0				0			
LHD2-Gas	0.0001	0.0009	0.0022	0.0000	0.0001	0.0003	0.0004	0.0007	0.0001	0.0009	0.0029	0.0050	0.0010	0.0133	0.0194	0.0002	0.0000	0.0014
MCY-Gas	0.0388	0.0427	0.1419	0.0220		0.0094	0.0314	0.0226	0.0388	0.0427	0.1355	0.2820		0.0813	0.3633	0.0140		0.0007
MDV-Dsl			0.0001	0.0001			0.0001				0.0001	0.0021			0.0021	0.0003		
MDV-Elec			0				0				0				0			
MDV-Gas	0.0093	0.0409	0.1493	0.0060		0.0299	0.0359	0.0575	0.0093	0.0409	0.1437	0.9439		0.3816	1.33	0.0357		0.0391
MDV-Phe	0.0002	0.0005	0.0029	0.0000		0.0008	0.0009	0.0013	0.0002	0.0005	0.0028	0.0083		0.0063	0.0146	0.0001		0.0006
MH-Dsl			0.0002	0.0002			0.0002				0.0002	0.0005			0.0005	0.0051		
MH-Gas	0.0001	0.0000	0.0008	0.0000		0.0000	0.0000	0.0006	0.0001	0.0000	0.0007	0.0006		0.0001	0.0006	0.0008		0.0000
Motor Coach-Dsl			0.0001	0.0000	0.0001		0.0001				0.0001	0.0001	0.0012		0.0013	0.0024	0.0004	0.0005
OBUS-Elec			0				0				0				0			
OBUS-Gas	0.0000	0.0001	0.0004	0.0000	0.0000	0.0001	0.0001	0.0001	0.0000	0.0001	0.0006	0.0002	0.0002	0.0015	0.0019	0.0003	0.0000	0.0002
PTO-Dsl			0.0001	0.0001			0.0001				0.0001	0.0009			0.0009	0.0129		
PTO-Elec			0				0				0				0			
SBUS-Dsl			0.0001	0.0000	0.0000		0.0001				0.0001	0.0002	0.0012		0.0014	0.0010	0.0010	0.0014
SBUS-Elec			0				0				0				0			
SBUS-Gas	0.0000	0.0000	0.0004	0.0000	0.0002	0.0000	0.0002	0.0001	0.0000	0.0000	0.0006	0.0002	0.0015	0.0006	0.0022	0.0001	0.0000	0.0000
SBUS-NG			0.0033	0.0000	0.0000		0.0000				0.0001	0.0068	0.0020		0.0089	0.0001	0.0003	
T6 CAIRP Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 4-Elec			0				0				0				0			
T6 CAIRP Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0000
T6 CAIRP Class 5-Elec			0				0				0				0			
T6 CAIRP Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0001	0.0002	0.0000	0.0002
T6 CAIRP Class 6-Elec			0				0				0				0			
T6 CAIRP Class 7-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0003	0.0001		0.0005	0.0022	0.0001	0.0005
T6 CAIRP Class 7-Elec			0				0				0				0			
T6 Instate Delivery Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0003		0.0004	0.0005	0.0003	0.0006
T6 Instate Delivery Class 4-Elec			0				0				0				0			
T6 Instate Delivery Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0002		0.0003	0.0004	0.0002	0.0005
T6 Instate Delivery Class 5-Elec			0				0				0				0			
T6 Instate Delivery Class 6-Dsl			0.0001	0.0000	0.0000		0.0001				0.0002	0.0003	0.0014		0.0017	0.0022	0.0011	0.0028
T6 Instate Delivery Class 6-Elec			0				0				0				0			
T6 Instate Delivery Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0002	0.0003		0.0005	0.0015	0.0003	0.0009
T6 Instate Delivery Class 7-Elec			0				0				0				0			
T6 Instate Delivery Class 7-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0002	0.0000		0.0002	0.0000	0.0000	
T6 Instate Other Class 4-Dsl			0.0001	0.0001	0.0000		0.0001				0.0002	0.0004	0.0020		0.0024	0.0026	0.0015	0.0034
T6 Instate Other Class 4-Elec			0				0				0				0			
T6 Instate Other Class 5-Dsl			0.0003	0.0001	0.0001		0.0003				0.0006	0.0010	0.0049		0.0059	0.0065	0.0038	0.0084
T6 Instate Other Class 5-Elec			0				0				0				0			
T6 Instate Other Class 6-Dsl			0.0003	0.0001	0.0001		0.0002				0.0005	0.0009	0.0043		0.0052	0.0059	0.0034	0.0075
T6 Instate Other Class 6-Elec			0				0				0				0			
T6 Instate Other Class 7-Dsl			0.0003	0.0001	0.0001		0.0002				0.0004	0.0010	0.0036		0.0045	0.0081	0.0036	0.0077
T6 Instate Other Class 7-Elec			0				0				0				0			
T6 Instate Other Class 7-NG			0.0005	0.0000	0.0000		0.0000				0.0000	0.0012	0.0004		0.0017	0.0000	0.0001	
T6 Instate Tractor Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0001	0.0001	0.0001
T6 Instate Tractor Class 6-Elec			0				0				0				0			
T6 Instate Tractor Class 7-Dsl			0.0003	0.0002	0.0001		0.0002				0.0003	0.0012	0.0032		0.0043	0.0089	0.0030	0.0064
T6 Instate Tractor Class 7-Elec			0				0				0				0			

Veh_Tech	TOG_HTSK	TOG_RUNLS	TOG_TOTAL	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX
T6 Instate Tractor Class 7-NG			0.0005	0.0000	0.0000		0.0000				0.0000	0.0015	0.0004		0.0019	0.0000	0.0001	
T6 OOS Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 OOS Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 OOS Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0003	0.0001	0.0004
T6 OOS Class 7-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0003	0.0001		0.0004	0.0024	0.0001	0.0005
T6 Public Class 4-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0002	0.0001	0.0001
T6 Public Class 4-Elec			0				0				0				0			
T6 Public Class 4-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0002	0.0001		0.0003	0.0000	0.0000	
T6 Public Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0003		0.0003	0.0004	0.0003	0.0002
T6 Public Class 5-Elec			0				0				0				0			
T6 Public Class 5-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0004	0.0002		0.0006	0.0000	0.0000	
T6 Public Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0003		0.0004	0.0004	0.0003	0.0002
T6 Public Class 6-Elec			0				0				0				0			
T6 Public Class 6-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0004	0.0002		0.0007	0.0000	0.0000	
T6 Public Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0005		0.0006	0.0007	0.0005	0.0004
T6 Public Class 7-Elec			0				0				0				0			
T6 Public Class 7-NG			0.0004	0.0000	0.0000		0.0000				0.0000	0.0009	0.0004		0.0013	0.0000	0.0001	
T6 Utility Class 5-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0001	0.0000	0.0001
T6 Utility Class 5-Elec			0				0				0				0			
T6 Utility Class 5-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6 Utility Class 6-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Elec			0				0				0				0			
T6 Utility Class 6-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6 Utility Class 7-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Elec			0				0				0				0			
T6 Utility Class 7-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	
T6TS-Elec			0				0				0				0			
T6TS-Gas	0.0000	0.0005	0.0017	0.0001	0.0001	0.0005	0.0007	0.0003	0.0000	0.0005	0.0025	0.0012	0.0020	0.0082	0.0114	0.0004	0.0000	0.0012
T7 CAIRP Class 8-Dsl			0.0134	0.0022	0.0096		0.0118				0.0151	0.0073	0.1422		0.1495	0.2296	0.0741	0.0335
T7 CAIRP Class 8-Elec			0				0				0				0			
T7 NNOOS Class 8-Dsl			0.0187	0.0032	0.0132		0.0164				0.0164	0.0109	0.1949		0.2058	0.3859	0.1559	0.0556
T7 NOOS Class 8-Dsl			0.0079	0.0012	0.0057		0.0069				0.0069	0.0041	0.0841		0.0882	0.1443	0.0673	0.0240
T7 Other Port Class 8-Dsl			0.0001	0.0000	0.0000		0.0001				0.0001	0.0002	0.0007		0.0009	0.0040	0.0004	0.0004
T7 Other Port Class 8-Elec			0				0				0				0			
T7 POAK Class 8-Dsl			0.0004	0.0001	0.0002		0.0003				0.0004	0.0005	0.0037		0.0042	0.0109	0.0021	0.0022
T7 POAK Class 8-Elec			0				0				0				0			
T7 POLA Class 8-Dsl			0.0004	0.0001	0.0002		0.0003				0.0004	0.0008	0.0032		0.0041	0.0163	0.0020	0.0020
T7 POLA Class 8-Elec			0				0				0				0			
T7 POLA Class 8-NG			0.0001	0.0000	0.0000		0.0000				0.0000	0.0003	0.0000		0.0003	0.0000	0.0000	
T7 Public Class 8-Dsl			0.0004	0.0001	0.0002		0.0003				0.0005	0.0008	0.0025		0.0033	0.0095	0.0017	0.0038
T7 Public Class 8-Elec			0				0				0				0			
T7 Public Class 8-NG			0.0016	0.0000	0.0000		0.0000				0.0000	0.0059	0.0010		0.0069	0.0002	0.0001	
T7 SWCV Class 8-Dsl			0.0001	0.0001	0.0000		0.0001				0.0001	0.0001	0.0005		0.0006	0.0017	0.0004	0.0005
T7 SWCV Class 8-Elec			0				0				0				0			
T7 SWCV Class 8-NG			0.0024	0.0000	0.0000		0.0000				0.0000	0.0560	0.0031		0.0590	0.0011	0.0001	
T7 Single Concrete/Transit Mix Class 8-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0002		0.0002	0.0003	0.0001	0.0001
T7 Single Concrete/Transit Mix Class 8-Elec			0				0				0				0			
T7 Single Concrete/Transit Mix Class 8-NG			0.0000	0.0000	0.0000		0.0000				0.0000	0.0001	0.0000		0.0001	0.0000	0.0000	
T7 Single Dump Class 8-Dsl			0.0002	0.0000	0.0001		0.0001				0.0003	0.0002	0.0016		0.0018	0.0031	0.0008	0.0014
T7 Single Dump Class 8-Elec			0				0				0				0			
T7 Single Dump Class 8-NG			0.0002	0.0000	0.0000		0.0000				0.0000	0.0005	0.0002		0.0006	0.0000	0.0000	
T7 Single Other Class 8-Dsl			0.0011	0.0002	0.0008		0.0010				0.0019	0.0011	0.0114		0.0125	0.0220	0.0060	0.0098
T7 Single Other Class 8-Elec			0				0				0				0			
T7 Single Other Class 8-NG			0.0013	0.0000	0.0000		0.0000				0.0000	0.0034	0.0012		0.0046	0.0001	0.0002	
T7 Tractor Class 8-Dsl			0.0097	0.0013	0.0071		0.0085				0.0101	0.0062	0.1056		0.1118	0.1545	0.0632	0.1000
T7 Tractor Class 8-Elec			0				0				0				0			
T7 Tractor Class 8-NG			0.0037	0.0000	0.0000		0.0001				0.0001	0.0076	0.0051		0.0127	0.0003	0.0007	
T7 Utility Class 8-Dsl			0.0000	0.0000	0.0000		0.0000				0.0000	0.0000	0.0001		0.0001	0.0003	0.0000	0.0004
T7 Utility Class 8-Elec			0				0				0				0			
T7IS-Elec			0				0				0				0			
T7IS-Gas	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0007		0.0000	0.0007	0.0001		0.0000
UBUS-Dsl			0.0000	0.0000			0.0000				0.0000	0.0000			0.0000	0.0000		
UBUS-Elec			0				0				0				0			
UBUS-Gas	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002		0.0001	0.0004	0.0000		0.0000
UBUS-NG			0.0000	0.0000			0.0000				0.0000	0.0000			0.0000	0.0000		

Veh_Tech	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX
All Vehicles	2.89	0.0287	0.0002	0.0010	0.0299	0.1289	0.1903	0.3708	0.0272	0.0002	0.0009	0.0284	0.0322	0.0666	0.1378	0.0371
All Other Buses-Dsl	0.0052	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000
All Other Buses-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
LDA-Dsl	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000
LDA-Elec	0				0	0.0057	0.0031	0.0088				0	0.0014	0.0011	0.0025	
LDA-Gas	0.1973	0.0024		0.0005	0.0028	0.0423	0.0402	0.0852	0.0022		0.0004	0.0026	0.0106	0.0141	0.0272	0.0116
LDA-Phe	0.0034	0.0000		0.0000	0.0001	0.0020	0.0010	0.0031	0.0000		0.0000	0.0001	0.0005	0.0003	0.0009	0.0003
LDT1-Dsl	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000
LDT1-Elec	0				0	0.0001	0.0000	0.0001				0	0.0000	0.0000	0.0000	
LDT1-Gas	0.0126	0.0001		0.0000	0.0002	0.0025	0.0026	0.0053	0.0001		0.0000	0.0002	0.0006	0.0009	0.0017	0.0008
LDT1-Phe	0.0001	0.0000		0.0000	0.0000	0.0001	0.0000	0.0001	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LDT2-Dsl	0.0003	0.0000			0.0000	0.0001	0.0001	0.0002	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000
LDT2-Elec	0				0	0.0006	0.0003	0.0010				0	0.0002	0.0001	0.0003	
LDT2-Gas	0.1219	0.0012		0.0003	0.0015	0.0215	0.0228	0.0459	0.0011		0.0002	0.0014	0.0054	0.0080	0.0148	0.0071
LDT2-Phe	0.0010	0.0000		0.0000	0.0000	0.0006	0.0003	0.0009	0.0000		0.0000	0.0000	0.0001	0.0001	0.0003	0.0001
LHD1-Dsl	0.0316	0.0012	0.0000		0.0012	0.0007	0.0046	0.0122	0.0011	0.0000		0.0012	0.0002	0.0016	0.0054	0.0003
LHD1-Elec	0				0	0.0011	0.0052	0.0000				0	0.0003	0.0018	0.0000	
LHD1-Gas	0.0271	0.0001		0.0000	0.0001	0.0007	0.0070	0.0154	0.0001		0.0000	0.0001	0.0002	0.0024	0.0054	0.0007
LHD2-Dsl	0.0221	0.0008	0.0000		0.0008	0.0003	0.0026	0.0068	0.0008	0.0000		0.0008	0.0001	0.0009	0.0032	0.0002
LHD2-Elec	0				0	0.0002	0.0014	0.0000				0	0.0001	0.0005	0.0000	
LHD2-Gas	0.0028	0.0000		0.0000	0.0000	0.0001	0.0009	0.0019	0.0000		0.0000	0.0000	0.0000	0.0003	0.0006	0.0001
MCY-Gas	0.0147	0.0001		0.0000	0.0001	0.0001	0.0004	0.0006	0.0001		0.0000	0.0001	0.0000	0.0001	0.0003	0.0001
MDV-Dsl	0.0003	0.0000			0.0000	0.0001	0.0001	0.0003	0.0000			0.0000	0.0000	0.0001	0.0001	0.0001
MDV-Elec	0				0	0.0006	0.0003	0.0009				0	0.0001	0.0001	0.0002	
MDV-Gas	0.0748	0.0007		0.0002	0.0009	0.0125	0.0135	0.0268	0.0007		0.0001	0.0008	0.0031	0.0047	0.0086	0.0049
MDV-Phe	0.0007	0.0000		0.0000	0.0000	0.0004	0.0002	0.0006	0.0000		0.0000	0.0000	0.0001	0.0001	0.0002	0.0001
MH-Dsl	0.0051	0.0000			0.0000	0.0000	0.0001	0.0002	0.0000			0.0000	0.0000	0.0000	0.0001	0.0000
MH-Gas	0.0008	0.0000		0.0000	0.0000	0.0000	0.0002	0.0002	0.0000		0.0000	0.0000	0.0000	0.0001	0.0001	0.0001
Motor Coach-Dsl	0.0054	0.0001	0.0000		0.0001	0.0000	0.0002	0.0003	0.0001	0.0000		0.0001	0.0000	0.0001	0.0001	0.0000
OBUS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
OBUS-Gas	0.0019	0.0000		0.0000	0.0000	0.0000	0.0001	0.0002	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
PTO-Dsl	0.0301	0.0000			0.0000			0.0000	0.0000			0.0000			0.0000	0.0001
PTO-Elec	0				0			0				0			0	
SBUS-Dsl	0.0101	0.0000	0.0000		0.0000	0.0000	0.0002	0.0004	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000
SBUS-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
SBUS-Gas	0.0004	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SBUS-NG	0.0008	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	
T6 CAIRP Class 4-Dsl	0.0003	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 5-Dsl	0.0004	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 CAIRP Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 6-Dsl	0.0014	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 CAIRP Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 CAIRP Class 7-Dsl	0.0049	0.0001	0.0000		0.0001	0.0001	0.0005	0.0009	0.0001	0.0000		0.0001	0.0000	0.0002	0.0004	0.0001
T6 CAIRP Class 7-Elec	0				0	0.0000	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 4-Dsl	0.0047	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 5-Dsl	0.0033	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 6-Dsl	0.0203	0.0000	0.0000		0.0000	0.0001	0.0003	0.0009	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0001
T6 Instate Delivery Class 6-Elec	0				0	0.0001	0.0002	0.0000				0	0.0000	0.0001	0.0000	
T6 Instate Delivery Class 7-Dsl	0.0052	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Instate Delivery Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Delivery Class 7-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Instate Other Class 4-Dsl	0.0257	0.0000	0.0000		0.0000	0.0001	0.0005	0.0014	0.0000	0.0000		0.0000	0.0000	0.0002	0.0005	0.0001
T6 Instate Other Class 4-Elec	0				0	0.0002	0.0003	0.0000				0	0.0000	0.0001	0.0000	
T6 Instate Other Class 5-Dsl	0.0639	0.0001	0.0000		0.0001	0.0003	0.0011	0.0036	0.0001	0.0000		0.0001	0.0001	0.0004	0.0013	0.0002
T6 Instate Other Class 5-Elec	0				0	0.0004	0.0008	0.0000				0	0.0001	0.0003	0.0000	
T6 Instate Other Class 6-Dsl	0.0568	0.0001	0.0000		0.0001	0.0003	0.0010	0.0032	0.0001	0.0000		0.0001	0.0001	0.0004	0.0011	0.0002
T6 Instate Other Class 6-Elec	0				0	0.0004	0.0007	0.0000				0	0.0001	0.0002	0.0000	
T6 Instate Other Class 7-Dsl	0.0397	0.0001	0.0000		0.0001	0.0002	0.0009	0.0022	0.0001	0.0000		0.0001	0.0001	0.0003	0.0008	0.0002
T6 Instate Other Class 7-Elec	0				0	0.0002	0.0004	0.0000				0	0.0001	0.0001	0.0000	
T6 Instate Other Class 7-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Instate Tractor Class 6-Dsl	0.0009	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Instate Tractor Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Instate Tractor Class 7-Dsl	0.0283	0.0001	0.0000		0.0001	0.0003	0.0011	0.0019	0.0001	0.0000		0.0001	0.0001	0.0004	0.0007	0.0002
T6 Instate Tractor Class 7-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0001	0.0000	

Veh_Tech	NOx_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX
T6 Instate Tractor Class 7-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 OOS Class 4-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 5-Dsl	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 6-Dsl	0.0008	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 OOS Class 7-Dsl	0.0030	0.0001	0.0000		0.0001	0.0001	0.0004	0.0006	0.0001	0.0000		0.0001	0.0000	0.0002	0.0002	0.0001
T6 Public Class 4-Dsl	0.0009	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 4-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 4-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 5-Dsl	0.0020	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 5-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 6-Dsl	0.0024	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Public Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 6-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Public Class 7-Dsl	0.0034	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000
T6 Public Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Public Class 7-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 5-Dsl	0.0006	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 5-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 5-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 6-Dsl	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 6-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 6-NG	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	
T6 Utility Class 7-Dsl	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T6 Utility Class 7-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T6 Utility Class 7-NG	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	0.0000	0		0.0000	0.0000	0.0000	0.0000	
T6TS-Elec	0				0	0.0001	0.0002	0.0000				0	0.0000	0.0001	0.0000	
T6TS-Gas	0.0054	0.0000		0.0000	0.0000	0.0001	0.0003	0.0009	0.0000		0.0000	0.0000	0.0000	0.0001	0.0003	0.0001
T7 CAIRP Class 8-Dsl	0.5441	0.0056	0.0000		0.0057	0.0068	0.0155	0.0363	0.0054	0.0000		0.0054	0.0017	0.0054	0.0163	0.0023
T7 CAIRP Class 8-Elec	0				0	0.0020	0.0022	0.0000				0	0.0005	0.0008	0.0000	
T7 NNOOS Class 8-Dsl	0.5974	0.0085	0.0001		0.0085	0.0104	0.0236	0.0426	0.0081	0.0001		0.0082	0.0026	0.0083	0.0190	0.0033
T7 NOOS Class 8-Dsl	0.2355	0.0033	0.0000		0.0033	0.0038	0.0086	0.0157	0.0031	0.0000		0.0031	0.0009	0.0030	0.0071	0.0012
T7 Other Port Class 8-Dsl	0.0070	0.0001	0.0000		0.0001	0.0001	0.0003	0.0006	0.0001	0.0000		0.0001	0.0000	0.0001	0.0002	0.0000
T7 Other Port Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 POAK Class 8-Dsl	0.0221	0.0001	0.0000		0.0001	0.0003	0.0008	0.0015	0.0001	0.0000		0.0001	0.0001	0.0003	0.0006	0.0001
T7 POAK Class 8-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T7 POLA Class 8-Dsl	0.0275	0.0002	0.0000		0.0002	0.0004	0.0011	0.0021	0.0002	0.0000		0.0002	0.0001	0.0004	0.0008	0.0002
T7 POLA Class 8-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T7 POLA Class 8-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Public Class 8-Dsl	0.0300	0.0001	0.0000		0.0001	0.0002	0.0006	0.0016	0.0000	0.0000		0.0001	0.0001	0.0002	0.0006	0.0001
T7 Public Class 8-Elec	0				0	0.0002	0.0003	0.0000				0	0.0000	0.0001	0.0000	
T7 Public Class 8-NG	0.0006	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	
T7 SWCV Class 8-Dsl	0.0035	0.0000	0.0000		0.0000	0.0001	0.0003	0.0006	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000
T7 SWCV Class 8-Elec	0				0	0.0002	0.0006	0.0000				0	0.0001	0.0002	0.0000	
T7 SWCV Class 8-NG	0.0015	0.0000	0.0000		0.0000	0.0002	0.0012	0.0026	0.0000	0.0000		0.0000	0.0001	0.0004	0.0009	
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0017	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T7 Single Concrete/Transit Mix Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7 Single Concrete/Transit Mix Class 8-NG	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Single Dump Class 8-Dsl	0.0128	0.0000	0.0000		0.0001	0.0001	0.0003	0.0008	0.0000	0.0000		0.0000	0.0000	0.0001	0.0003	0.0000
T7 Single Dump Class 8-Elec	0				0	0.0001	0.0001	0.0000				0	0.0000	0.0000	0.0000	
T7 Single Dump Class 8-NG	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
T7 Single Other Class 8-Dsl	0.0976	0.0004	0.0000		0.0004	0.0008	0.0019	0.0063	0.0003	0.0000		0.0003	0.0002	0.0007	0.0025	0.0003
T7 Single Other Class 8-Elec	0				0	0.0009	0.0011	0.0000				0	0.0002	0.0004	0.0000	
T7 Single Other Class 8-NG	0.0006	0.0000	0.0000		0.0000	0.0000	0.0001	0.0002	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	
T7 Tractor Class 8-Dsl	0.4631	0.0028	0.0000		0.0029	0.0047	0.0113	0.0230	0.0027	0.0000		0.0028	0.0012	0.0040	0.0096	0.0016
T7 Tractor Class 8-Elec	0				0	0.0010	0.0012	0.0000				0	0.0002	0.0004	0.0000	
T7 Tractor Class 8-NG	0.0012	0.0000	0.0000		0.0000	0.0001	0.0002	0.0003	0.0000	0.0000		0.0000	0.0000	0.0001	0.0001	
T7 Utility Class 8-Dsl	0.0017	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
T7 Utility Class 8-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7IS-Elec	0				0	0.0000	0.0000	0.0000				0	0.0000	0.0000	0.0000	
T7IS-Gas	0.0002	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Dsl	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-Elec	0				0	0.0002	0.0007	0.0009				0	0.0000	0.0002	0.0003	
UBUS-Gas	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
UBUS-NG	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	

Veh_Tech	SOx_IDLEX	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
All Vehicles	0.0007	0.0007	0.0386	0.6581	282.5	114.1	1.92
All Other Buses-Dsl	0.0000		0.0000	0.0007		0.2941	
All Other Buses-NG			0	0.0003			0.0263
LDA-Dsl			0.0000	0.0000		0.0484	
LDA-Elec			0				
LDA-Gas		0.0003	0.0119	0.2215	127.1		
LDA-Phe		0.0000	0.0003	0.0043	3.02		
LDT1-Dsl			0.0000	0.0000		0.0001	
LDT1-Elec			0				
LDT1-Gas		0.0000	0.0008	0.0128	8.54		
LDT1-Phe		0.0000	0.0000	0.0001	0.0930		
LDT2-Dsl			0.0000	0.0000		0.2267	
LDT2-Elec			0				
LDT2-Gas		0.0002	0.0073	0.1127	77.6		
LDT2-Phe		0.0000	0.0001	0.0013	0.9134		
LHD1-Dsl	0.0000		0.0003	0.0126		3.17	
LHD1-Elec			0				
LHD1-Gas	0.0000	0.0000	0.0007	0.0040	7.15		
LHD2-Dsl	0.0000		0.0002	0.0059		1.81	
LHD2-Elec			0				
LHD2-Gas	0.0000	0.0000	0.0001	0.0004	0.5765		
MCY-Gas		0.0000	0.0001	0.0003	0.6182		
MDV-Dsl			0.0001	0.0001		0.5022	
MDV-Elec			0				
MDV-Gas		0.0001	0.0051	0.0649	54.2		
MDV-Phe		0.0000	0.0001	0.0008	0.5826		
MH-Dsl			0.0000	0.0004		0.1967	
MH-Gas		0.0000	0.0001	0.0002	0.7101		
Motor Coach-Dsl	0.0000		0.0000	0.0006		0.3736	
OBUS-Elec			0				
OBUS-Gas	0.0000	0.0000	0.0000	0.0001	0.1961		
PTO-Dsl			0.0001	0.0011		0.7920	
PTO-Elec			0				
SBUS-Dsl	0.0000		0.0000	0.0008		0.3599	
SBUS-Elec			0				
SBUS-Gas	0.0000	0.0000	0.0000	0.0000	0.0767		
SBUS-NG			0	0.0012			0.1676
T6 CAIRP Class 4-Dsl	0.0000		0.0000	0.0001		0.0249	
T6 CAIRP Class 4-Elec			0				
T6 CAIRP Class 5-Dsl	0.0000		0.0000	0.0001		0.0342	
T6 CAIRP Class 5-Elec			0				
T6 CAIRP Class 6-Dsl	0.0000		0.0000	0.0002		0.0896	
T6 CAIRP Class 6-Elec			0				
T6 CAIRP Class 7-Dsl	0.0000		0.0001	0.0026		0.9413	
T6 CAIRP Class 7-Elec			0				
T6 Instate Delivery Class 4-Dsl	0.0000		0.0000	0.0003		0.1468	
T6 Instate Delivery Class 4-Elec			0				
T6 Instate Delivery Class 5-Dsl	0.0000		0.0000	0.0002		0.1030	
T6 Instate Delivery Class 5-Elec			0				
T6 Instate Delivery Class 6-Dsl	0.0000		0.0001	0.0014		0.6265	
T6 Instate Delivery Class 6-Elec			0				
T6 Instate Delivery Class 7-Dsl	0.0000		0.0000	0.0005		0.2390	
T6 Instate Delivery Class 7-Elec			0				
T6 Instate Delivery Class 7-NG			0	0.0001			0.0068
T6 Instate Other Class 4-Dsl	0.0000		0.0001	0.0023		0.9629	
T6 Instate Other Class 4-Elec			0				
T6 Instate Other Class 5-Dsl	0.0000		0.0003	0.0056		2.39	
T6 Instate Other Class 5-Elec			0				
T6 Instate Other Class 6-Dsl	0.0000		0.0002	0.0050		2.12	
T6 Instate Other Class 6-Elec			0				
T6 Instate Other Class 7-Dsl	0.0000		0.0002	0.0043		1.84	
T6 Instate Other Class 7-Elec			0				
T6 Instate Other Class 7-NG			0	0.0005			0.0531
T6 Instate Tractor Class 6-Dsl	0.0000		0.0000	0.0001		0.0393	
T6 Instate Tractor Class 6-Elec			0				
T6 Instate Tractor Class 7-Dsl	0.0000		0.0002	0.0054		2.06	
T6 Instate Tractor Class 7-Elec			0				

Veh_Tech	SOx_IDLEX	SOx_STREX	SOx_TOTEX	NH3_RUNEX	Fuel_GAS	Fuel_DSL	Fuel_NG
T6 Instate Tractor Class 7-NG			0	0.0006			0.0628
T6 OOS Class 4-Dsl	0.0000		0.0000	0.0001		0.0343	
T6 OOS Class 5-Dsl	0.0000		0.0000	0.0001		0.0471	
T6 OOS Class 6-Dsl	0.0000		0.0000	0.0003		0.1234	
T6 OOS Class 7-Dsl	0.0000		0.0001	0.0023		0.8014	
T6 Public Class 4-Dsl	0.0000		0.0000	0.0001		0.0421	
T6 Public Class 4-Elec			0				
T6 Public Class 4-NG			0	0.0001			0.0075
T6 Public Class 5-Dsl	0.0000		0.0000	0.0002		0.0896	
T6 Public Class 5-Elec			0				
T6 Public Class 5-NG			0	0.0001			0.0165
T6 Public Class 6-Dsl	0.0000		0.0000	0.0002		0.1086	
T6 Public Class 6-Elec			0				
T6 Public Class 6-NG			0	0.0002			0.0197
T6 Public Class 7-Dsl	0.0000		0.0000	0.0004		0.2035	
T6 Public Class 7-Elec			0				
T6 Public Class 7-NG			0	0.0003			0.0373
T6 Utility Class 5-Dsl	0.0000		0.0000	0.0001		0.0261	
T6 Utility Class 5-Elec			0				
T6 Utility Class 5-NG			0	0.0000			0.0001
T6 Utility Class 6-Dsl	0.0000		0.0000	0.0000		0.0049	
T6 Utility Class 6-Elec			0				
T6 Utility Class 6-NG			0	0.0000			0.0000
T6 Utility Class 7-Dsl	0.0000		0.0000	0.0000		0.0067	
T6 Utility Class 7-Elec			0				
T6 Utility Class 7-NG			0	0.0000			0.0000
T6TS-Elec			0				
T6TS-Gas	0.0000	0.0000	0.0001	0.0003	1.11		
T7 CAIRP Class 8-Dsl	0.0002		0.0025	0.0417		23.3	
T7 CAIRP Class 8-Elec			0				
T7 NNOOS Class 8-Dsl	0.0002		0.0036	0.0635		33.7	
T7 NOOS Class 8-Dsl	0.0001		0.0013	0.0231		12.4	
T7 Other Port Class 8-Dsl	0.0000		0.0000	0.0007		0.4041	
T7 Other Port Class 8-Elec			0				
T7 POAK Class 8-Dsl	0.0000		0.0001	0.0019		1.07	
T7 POAK Class 8-Elec			0				
T7 POLA Class 8-Dsl	0.0000		0.0002	0.0026		1.48	
T7 POLA Class 8-Elec			0				
T7 POLA Class 8-NG			0	0.0001			0.0081
T7 Public Class 8-Dsl	0.0000		0.0001	0.0012		0.8579	
T7 Public Class 8-Elec			0				
T7 Public Class 8-NG			0	0.0008			0.1348
T7 SWCV Class 8-Dsl	0.0000		0.0001	0.0003		0.4769	
T7 SWCV Class 8-Elec			0				
T7 SWCV Class 8-NG			0	0.0033			0.9167
T7 Single Concrete/Transit Mix Class 8-Dsl	0.0000		0.0000	0.0001		0.0506	
T7 Single Concrete/Transit Mix Class 8-Elec			0				
T7 Single Concrete/Transit Mix Class 8-NG			0	0.0000			0.0020
T7 Single Dump Class 8-Dsl	0.0000		0.0000	0.0006		0.4046	
T7 Single Dump Class 8-Elec			0				
T7 Single Dump Class 8-NG			0	0.0001			0.0162
T7 Single Other Class 8-Dsl	0.0000		0.0003	0.0048		2.97	
T7 Single Other Class 8-Elec			0				
T7 Single Other Class 8-NG			0	0.0008			0.1180
T7 Tractor Class 8-Dsl	0.0001		0.0017	0.0289		16.1	
T7 Tractor Class 8-Elec			0				
T7 Tractor Class 8-NG			0	0.0022			0.3145
T7 Utility Class 8-Dsl	0.0000		0.0000	0.0001		0.0415	
T7 Utility Class 8-Elec			0				
T7IS-Elec			0				
T7IS-Gas		0.0000	0.0000	0.0000	0.0045		
UBUS-Dsl			0.0000	0.0000		0.0026	
UBUS-Elec			0				
UBUS-Gas		0.0000	0.0000	0.0000	0.0336		
UBUS-NG			0	0.0002			0.0164

Appendix C

Special Status Species

Table B-1 Special-Status Plant Species with the Potential to Occur within TCAG Region

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Abronia alpina Ramshaw Meadows abronia	None/None G2/S2 1B.1	Perennial herb. Blooms Jul-Aug. Occurs in meadows and seeps. Gravelly margins of meadows; in gravel and sand with Hulsea and Lupinus. Known to occur in Ramshaw, Templeton meadows, and Tulare County of the High Sierra Nevada Floristic Province. 2400-2700m (7874-8858ft).
Agrostis humilis mountain bent grass	None/None G4Q/S2 2B.3	Perennial herb. Alpine boulder and rock field, meadows and seeps, subalpine coniferous forest. Carbonate (sometimes). Elevations: 8760-10500ft. (2670-3200m.) Blooms Jul-Sep.
Allium abramsii Abrams' onion	None/None G3/S3 1B.2	Perennial bulbiferous herb. Lower montane coniferous forest, upper montane coniferous forest. On sandy soils, derived from disintegrated granite. Elevations: 2905-10005ft. (885-3050m.) Blooms May-Jul.
Asplenium septentrionale northern spleenwort	None/None G5/S3 2B.3	Perennial rhizomatous herb. Chaparral, lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest. Granitic, rocky. Elevations: 5300-10990ft. (1615-3350m.) Blooms Jul-Aug.
Astragalus lentiginosus var. kernensis Kern Plateau milk-vetch	None/None G5T2?/S2S3 1B.2	Perennial herb. Meadows and seeps, subalpine coniferous forest. Sandy. Elevations: 7350-9025ft. (2240-2750m.) Blooms Jun-Jul.
Astragalus shevockii Shevock's milk-vetch	None/None G2/S2 1B.3	Perennial herb. Upper montane coniferous forest. Open Jeffrey pine forest, in granitic sand or volcanic soils and in pine-needle duff. Elevations: 6200-6445ft. (1890-1965m.) Blooms Jun-Jul.
Atriplex cordulata var. cordulata heartscale	None/None GNRT2/S2 1B.2	Annual herb. Chenopod scrub, meadows and seeps, valley and foothill grassland. Alkaline (sometimes). Elevations: 0-1835ft. (0-560m.) Blooms Apr-Oct.
Atriplex cordulata var. erecticaulis Earlimart orache	None/None GNRT1/S1 1B.2	Annual herb. Valley and foothill grassland. Elevations: 130-330ft. (40-100m.) Blooms Aug-Sep(Nov).
Atriplex coronata var. vallicola Lost Hills crownscale	None/None G4T3/S3 1B.2	Annual herb. Chenopod scrub, valley and foothill grassland, vernal pools. Alkaline. Elevations: 165-2085ft. (50-635m.) Blooms Apr-Sep.
Atriplex depressa brittlescale	None/None G2/S2 1B.2	Annual herb. Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Alkaline, clay. Elevations: 5-1050ft. (1-320m.) Blooms Apr-Oct.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Atriplex minuscula lesser saltscale	None/None G2/S2 1B.1	Annual herb. Chenopod scrub, playas, valley and foothill grassland. Alkaline, sandy. Elevations: 50-655ft. (15-200m.) Blooms May-Oct.
Atriplex persistens vernal pool smallscale	None/None G2/S2 1B.2	Annual herb. Vernal pools. Alkaline vernal pools. Elevations: 35-375ft. (10-115m.) Blooms Jun-Oct.
Atriplex subtilis subtle orache	None/None G1/S1 1B.2	Annual herb. Valley and foothill grassland. Alkaline. Elevations: 130-330ft. (40-100m.) Blooms (Apr)Jun-Sep(Oct).
Boechera bodiensis Bodie Hills rockcress	None/None G3/S3 1B.3	Perennial herb. Alpine boulder and rock field, great basin scrub, pinyon and juniper woodland, subalpine coniferous forest. In rock crevices, outcrops, and on steep slopes. Granite and volcanic substrates. Elevations: 6840-11580ft. (2085-3530m.) Blooms Jun-Jul(Aug).
Boechera cobrensis Masonic rockcress	None/None G5/S3 2B.3	Perennial herb. Great basin scrub, pinyon and juniper woodland. Sandy. Elevations: 4510-10190ft. (1375-3105m.) Blooms Jun-Jul.
Boechera dispar pinyon rockcress	None/None G3/S3 2B.3	Perennial herb. Joshua tree woodland, mojavean desert scrub, pinyon and juniper woodland. Granitic, gravelly. Elevations: 3935-8335ft. (1200-2540m.) Blooms Mar-Jun.
Boechera evadens hidden rockcress	None/None G1/S1 1B.3	Perennial herb. Upper montane coniferous forest. Rocky. Elevations: 8400-9350ft. (2560-2850m.) Blooms May-Aug.
Boechera shevockii Shevock's rockcress	None/None G1/S1 1B.1	Perennial herb. Upper montane coniferous forest. Granitic. Elevations: 8105-8205ft. (2470-2500m.) Blooms Jun-Jul.
Boechera tularensis Tulare rockcress	None/None G3/S3 1B.3	Perennial herb. Subalpine coniferous forest, upper montane coniferous forest. Roadsides (sometimes), rocky, slopes. Elevations: 5990-10990ft. (1825-3350m.) Blooms (May)Jun-Jul(Aug).
Botrychium ascendens upswept moonwort	None/None G4/S3 2B.2	Perennial rhizomatous herb. Lower montane coniferous forest, meadows and seeps. Mesic. Elevations: 3660-9990ft. (1115-3045m.) Blooms (Jun)Jul-Aug.
Botrychium campestre var. lineare slender moonwort	None/None G3/S1 1B.1	Upper coniferous forest, subalpine coniferous forest, meadows and seeps. Blooms .

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Botrychium crenulatum scalloped moonwort	None/None G4/S3 2B.2	Perennial rhizomatous herb. Bogs and fens, lower montane coniferous forest, marshes and swamps, meadows and seeps, upper montane coniferous forest. Moist meadows, freshwater marsh, and near creeks. Elevations: 4160-10760ft. (1268-3280m.) Blooms Jun-Sep.
Botrychium lineare slender moonwort	None/None G3/S1 1B.1	Perennial herb. Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Elevations: 8400-8530ft. (2560-2600m.) Blooms Unk.
Brasenia schreberi watershield	None/None G5/S3 2B.3	Perennial rhizomatous herb (aquatic). Marshes and swamps. Aquatic known from water bodies both natural and artificial in California. 1-. Elevations: 0-7220ft. (0-2200m.) Blooms Jun-Sep.
Brodiaea insignis Kaweah brodiaea	None/SE G1/S1 1B.2	Perennial bulbiferous herb. Cismontane woodland, meadows and seeps, valley and foothill grassland. Clay (sometimes), granitic (sometimes). Elevations: 490-4595ft. (150-1400m.) Blooms Apr-Jun.
Calochortus striatus alkali mariposa-lily	None/None G3/S2S3 1B.2	Perennial bulbiferous herb. Chaparral, chenopod scrub, meadows and seeps, mojavean desert scrub. Alkaline, mesic. Elevations: 230-5235ft. (70-1595m.) Blooms Apr-Jun.
Calochortus westonii Shirley Meadows star-tulip	None/None G3/S3 1B.2	Perennial bulbiferous herb. Broadleafed upland forest, lower montane coniferous forest, meadows and seeps. Granitic. Elevations: 4920-6905ft. (1500-2105m.) Blooms May-Jun.
Calycadenia spicata spicate calycadenia	None/None G3?/S3 1B.3	Cismontane woodland, Valley and foothill grassland. Adobe, Clay, Disturbed areas, Dry, Gravelly, Openings, Roadsides, Rocky 40-1400m. Blooms May-Sep.
Calyptridium pygmaeum pygmy pussypaws	None/None G1G2/S1S2 1B.2	Annual herb. Subalpine coniferous forest, upper montane coniferous forest. Gravelly (sometimes), sandy (sometimes). Elevations: 6495-10205ft. (1980-3110m.) Blooms Jun-Aug.
Carex praticola northern meadow sedge	None/None G5/S2 2B.2	Perennial herb. Meadows and seeps. Moist to wet meadows. Elevations: 0-10500ft. (0-3200m.) Blooms May-Jul.
Carlquistia muirii Muir's tarplant	None/None G2/S2 1B.3	Perennial rhizomatous herb. Chaparral, lower montane coniferous forest, upper montane coniferous forest. Granitic. Elevations: 2475-8205ft. (755-2500m.) Blooms Jul-Aug(Oct).
Caulanthus californicus California jewelflower	FE/SE G1/S1 1B.1	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. Elevations: 200-3280ft. (61-1000m.) Blooms Feb-May.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Chaenactis douglasii var. alpina alpine dusty maidens	None/None G5T5/S2 2B.3	Perennial herb. Alpine boulder and rock field. Open, subalpine to alpine gravel and crevices; granitic substrate. Elevations: 9400-11155ft. (2865-3400m.) Blooms Jul-Sep.
Cinna bolanderi Bolander's woodreed	None/None G2G3/S2S3 1B.2	Perennial herb. Meadows and seeps, upper montane coniferous forest. Mesic, streambanks. Elevations: 5480-8005ft. (1670-2440m.) Blooms Jul-Sep.
Clarkia springvillensis Springville clarkia	FT/SE G2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Granitic. Elevations: 805-4005ft. (245-1220m.) Blooms (Mar)Apr-Jul.
Cordylanthus eremicus ssp. kernensis Kern Plateau bird's-beak	None/None G3T2/S2 1B.3	Annual herb (hemiparasitic). Great basin scrub, joshua tree woodland, pinyon and juniper woodland, upper montane coniferous forest. Elevations: 5495-9845ft. (1675-3000m.) Blooms (May)Jul-Sep.
Cryptantha incana Tulare cryptantha	None/None G2/S2 1B.3	Annual herb. Lower montane coniferous forest. Gravelly or rocky sites. Elevations: 4690-7055ft. (1430-2150m.) Blooms Jun-Aug.
Cuscuta jepsonii Jepson's dodder	None/None G3/S3 1B.2	Annual vine (parasitic). North coast coniferous forest. Primary host species are Ceanothus diversifolius and Ceanothus prostratus. Elevations: 3935-7545ft. (1200-2300m.) Blooms Jul-Sep.
Deinandra mohavensis Mojave tarplant	None/SE G3/S3 1B.3	Annual herb. Chaparral, coastal scrub, riparian scrub. Low sand bars in river bed; mostly in riparian areas or in ephemeral grassy areas. Elevations: 2100-5250ft. (640-1600m.) Blooms (Jan-May)Jun-Oct.
Delphinium purpusii rose-flowered larkspur	None/None G3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland, pinyon and juniper woodland. On shady rocky slopes; often on carbonates. Elevations: 985-4395ft. (300-1340m.) Blooms (Mar)Apr-May.
Delphinium recurvatum recurved larkspur	None/None G2?/S2 1B.2	Perennial herb. Chenopod scrub, cismontane woodland, valley and foothill grassland. Alkaline. Elevations: 10-2590ft. (3-790m.) Blooms Mar-Jun.
Diplacus pictus calico monkeyflower	None/None G2/S2 1B.2	Annual herb. Broadleafed upland forest, cismontane woodland. In bare ground around gooseberry bushes or around granite rock outcrops. Elevations: 330-4690ft. (100-1430m.) Blooms Mar-May.
Draba cruciata Mineral King draba	None/None G3/S3 1B.3	Perennial herb. Subalpine coniferous forest. On steep rocky slopes in gravelly soils. Elevations: 8205-10875ft. (2500-3315m.) Blooms Jun-Aug.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Draba lonchocarpa spear-fruited draba	None/None G5/S2S3 2B.3	Perennial herb. Alpine boulder and rock field. On limestone scree. Elevations: 9845-10810ft. (3000-3295m.) Blooms Jun-Jul.
Draba praealta tall draba	None/None G5/S3 2B.3	Perennial herb. Meadows and seeps. Mesic sites. Elevations: 8205-11205ft. (2500-3415m.) Blooms Jul-Aug.
Draba sharsmithii Mt. Whitney draba	None/None G2/S2 1B.3	Perennial herb. Alpine boulder and rock field, subalpine coniferous forest. Protected rock crevices. Elevations: 10825-12995ft. (3300-3960m.) Blooms Jul-Aug.
Dudleya cymosa ssp. costatifolia Pierpoint Springs dudleya	None/None G4T1/S1 1B.2	Perennial herb. Chaparral, cismontane woodland. On limestone on south-facing slope with Arabis, Cercocarpus, Fremontodendron, etc. Elevations: 4710-5250ft. (1435-1600m.) Blooms May-Jul.
Elodium blandowii Blandow's bog moss	None/None G4/S2 2B.2	Moss. Meadows and seeps, subalpine coniferous forest. Moss growing on damp soil, especially under willows among leaf litter. Elevations: 6110-8860ft. (1862-2700m.)
Elymus scribneri Scribner's wheat grass	None/None G5/S3 2B.3	Perennial herb. Alpine boulder and rock field. On rocky slopes. Elevations: 9515-13780ft. (2900-4200m.) Blooms Jul-Aug.
Entosthodon kochii Koch's cord moss	None/None G1/S1S2 1B.3	Moss. Cismontane woodland. Moss growing on soil on river banks. Elevations: 590-3280ft. (180-1000m.)
Eremalche parryi ssp. kernensis Kern mallow	FE/None G3G4T3/S3 1B.2	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. On dry, open, sandy to clay soils; usually within valley saltbush scrub; often at edge of balds. Elevations: 230-4230ft. (70-1290m.) Blooms Jan(Feb)Mar-May.
Eriastrum tracyi Tracy's eriastrum	None/SR G3Q/S3 3.2	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Gravelly shale or clay; often in open areas. Elevations: 1035-5840ft. (315-1780m.) Blooms May-Jul.
Ericameria gilmanii Gilman's goldenbush	None/None G2/S2 1B.3	Perennial shrub. Subalpine coniferous forest, upper montane coniferous forest. Rocky sites in open coniferous forests; generally on limestone; can be on granite. Elevations: 6890-11155ft. (2100-3400m.) Blooms Aug-Sep.
Erigeron aequifolius Hall's daisy	None/None G3/S3 1B.3	Perennial rhizomatous herb. Broadleafed upland forest, lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest. On dry rock outcrops in granite walls and canyons. Elevations: 4920-8005ft. (1500-2440m.) Blooms Jun-Aug.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Erigeron inornatus var. keilii Keil's daisy	None/None G5T2/S2 1B.3	Perennial herb. Lower montane coniferous forest, meadows and seeps. Dry slopes, meadows, generally in mixed coniferous forests. Elevations: 5905-7220ft. (1800-2200m.) Blooms Jun-Sep.
Erigeron multiceps Kern River daisy	None/None G2G3/S2S3 1B.2	Perennial herb. Meadows and seeps, upper montane coniferous forest. River banks and dry meadow borders; usually in open, grassy areas. Elevations: 4920-8315ft. (1500-2535m.) Blooms Jun-Sep.
Eriogonum nudum var. murinum mouse buckwheat	None/None G5T2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, valley and foothill grassland. Dry sandy loam slopes in the Kaweah River drainage. Elevations: 1200-3710ft. (365-1130m.) Blooms Jun-Nov.
Eriogonum twisselmannii Twisselmann's buckwheat	None/SR G2/S2 1B.2	Perennial herb. Upper montane coniferous forest. Dry, granitic outcrops. Elevations: 7790-9205ft. (2375-2805m.) Blooms Jun-Sep.
Eriogonum wrightii var. olanchense Olancha Peak buckwheat	None/None G5T2/S1 1B.3	Perennial herb. Alpine boulder and rock field, subalpine coniferous forest. Dry gravelly to rocky places; open areas at base of boulders. Elevations: 10695-11600ft. (3260-3535m.) Blooms Jul-Sep.
Eryngium spinosepalum spiny-sepaled button-celery	None/None G2/S2 1B.2	Annual/perennial herb. Valley and foothill grassland, vernal pools. Some sites on clay soil of granitic origin; vernal pools, within grassland. Elevations: 260-3200ft. (80-975m.) Blooms Apr-Jun.
Erythranthe norrisii Kaweah monkeyflower	None/None G2/S2 1B.3	Annual herb. Chaparral, cismontane woodland. Marble outcrops, soil pockets, moss-covered ledges, cracks in outcrops, sometimes on south-facing cliffs. Elevations: 1200-4265ft. (365-1300m.) Blooms Mar-May.
Erythronium pusaterii Kaweah fawn lily	None/None G3/S3 1B.3	Perennial bulbiferous herb. Meadows and seeps, subalpine coniferous forest. On granitic loam soils and granite outcrops; also on metamorphics. Elevations: 6890-9105ft. (2100-2775m.) Blooms May-Jul.
Euphorbia hooveri Hoover's spurge	FT/None G1/S1 1B.2	Annual herb. Vernal pools. Vernal pools on volcanic mudflow or clay substrate. Elevations: 80-820ft. (25-250m.) Blooms Jul-Sep(Oct).
Fritillaria brandegeei Greenhorn fritillary	None/None G2G3/S2S3 1B.2	Perennial bulbiferous herb. Lower montane coniferous forest. Loamy, granitic soils; often in mixed conifer-black oak community. Elevations: 4365-6890ft. (1330-2100m.) Blooms Apr-Jun.
Fritillaria striata striped adobe-lily	None/ST G1/S1 1B.1	Perennial bulbiferous herb. Cismontane woodland, valley and foothill grassland. Heavy clay adobe soils in oak grassland. Elevations: 445-4775ft. (135-1455m.) Blooms Feb-Apr.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Galium angustifolium ssp. onycense Onyx Peak bedstraw	None/None G5T3/S3 1B.3	Perennial herb. Cismontane woodland, pinyon and juniper woodland. Grows from under and between large granite rocks and outcrops with scattered grey pines and oaks. Elevations: 2820-7545ft. (860-2300m.) Blooms Apr-Jul.
Githopsis tenella delicate bluecup	None/None G2/S2 1B.3	Annual herb. Chaparral, cismontane woodland. Mesic sites. Sometimes on serpentine. Elevations: 1065-6235ft. (325-1900m.) Blooms Apr-Jun.
Glyceria grandis American manna grass	None/None G5/S3 2B.3	Perennial rhizomatous herb. Bogs and fens, marshes and swamps, meadows and seeps. Wet meadows, ditches, streams, and ponds, in valleys and lower elevations in the mountains. Elevations: 50-6495ft. (15-1980m.) Blooms Jun-Aug.
Greeneocharis circumscissa var. rosulata rosette cushion cryptantha	None/None G5T2/S2 1B.2	Annual herb. Alpine boulder and rock field, subalpine coniferous forest. Gravelly, granitic substrates. Elevations: 9680-12010ft. (2950-3660m.) Blooms Jul-Aug.
Hackelia sharsmithii Sharsmith's stickseed	None/None G3/S3 2B.3	Perennial herb. Alpine boulder and rock field, subalpine coniferous forest. Cracks, crevices in granite cliffs; large boulder talus. Elevations: 9845-12140ft. (3000-3700m.) Blooms Jul-Sep.
Helianthus winteri Winter's sunflower	None/None G2?/S2? 1B.2	Perennial shrub. Cismontane woodland, valley and foothill grassland. Openings on relatively steep south-facing slopes, granitic, often rocky, often roadsides. Elevations: 410-1510ft. (125-460m.) Blooms Jan-Dec.
Hesperocyparis nevadensis Piute cypress	None/None G2/S2 1B.2	Perennial evergreen tree. Chaparral, cismontane woodland, closed-cone coniferous forest, pinyon and juniper woodland. On dry slopes; known from granodiorite, gabbro and limestone. Elevations: 2360-6005ft. (720-1830m.)
Horkelia tularensis Kern Plateau horkelia	None/None G2/S2 1B.3	Perennial herb. Upper montane coniferous forest. Metamorphic gravel along an exposed ridge top. Elevations: 7400-9435ft. (2255-2875m.) Blooms (May)Jun-Aug.
Hosackia oblongifolia var. cuprea copper-flowered bird's-foot trefoil	None/None G5T2/S2 1B.3	Perennial rhizomatous herb. Meadows and seeps, upper montane coniferous forest. Wet meadow borders. Elevations: 7875-9025ft. (2400-2750m.) Blooms Jun-Aug.
Hulsea brevifolia short-leaved hulsea	None/None G3/S3 1B.2	Perennial herb. Lower montane coniferous forest, upper montane coniferous forest. Granitic or volcanic soil of forest openings and road cuts. Elevations: 4920-10500ft. (1500-3200m.) Blooms May-Aug.
Hulsea vestita ssp. pygmaea pygmy hulsea	None/None G5T1/S1 1B.3	Perennial herb. Alpine boulder and rock field, subalpine coniferous forest. Gravelly sites; on granite. Elevations: 9300-12795ft. (2835-3900m.) Blooms Jun-Oct.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Imperata brevifolia California satintail	None/None G3/S3 2B.1	Perennial rhizomatous herb. Chaparral, coastal scrub, meadows and seeps, mojavean desert scrub, riparian scrub. Mesic sites, alkali seeps, riparian areas. 3-. Elevations: 0-3985ft. (0-1215m.) Blooms Sep-May.
Iris munzii Munz's iris	None/None G2/S2 1B.3	Perennial rhizomatous herb. Cismontane woodland. Granitic moist sandy loam soil, often along streams. Elevations: 1000-2625ft. (305-800m.) Blooms Mar-Apr(May).
Ivesia campestris field ivesia	None/None G3/S3 1B.2	Perennial herb. Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Meadow edges. Elevations: 6480-11140ft. (1975-3395m.) Blooms May-Aug.
Jaffueliobryum wrightii Wright's jaffueliobryum moss	None/None G5/S2S3 2B.3	Moss. Alpine dwarf scrub, mojavean desert scrub, pinyon and juniper woodland. Dry openings, rock crevices, carbonate. Elevations: 525-8205ft. (160-2500m.)
Lasthenia chrysantha alkali-sink goldfields	None/None G2/S2 1B.1	Annual herb. Vernal pools. Alkaline. Elevations: 0-655ft. (0-200m.) Blooms Feb-Apr.
Lasthenia glabrata ssp. coulteri Coulter's goldfields	None/None G4T2/S2 1B.1	Annual herb. Marshes and swamps, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-. Elevations: 5-4005ft. (1-1220m.) Blooms Feb-Jun.
Leptosiphon serrulatus Madera leptosiphon	None/None G3/S3 1B.2	Annual herb. Cismontane woodland, lower montane coniferous forest. Dry slopes; often on decomposed granite in woodland. Elevations: 985-4265ft. (300-1300m.) Blooms Apr-May.
Lewinskya holzingeri Holzinger's bristle moss	None/None G3G4/S2 1B.3	Cismontane woodland, Lower montane coniferous forest, Pinyon and juniper woodland, Upper montane coniferous forest. Usually on rock in and along streams; rarely on tree limbs. 715-1800m. Blooms .
Lewinskya spjutii Spjut's bristle moss	None/None G1G2/S1 1B.3	Lower montane coniferous forest, Pinyon and juniper woodland, Subalpine coniferous forest, Upper montane coniferous forest. Granitic, Rocky 2100-2400m. Blooms .
Lewisia disepala Yosemite lewisia	None/None G2/S2 1B.2	Perennial herb. Lower montane coniferous forest, pinyon and juniper woodland, upper montane coniferous forest. Fine gravel on rock outcrops, ridges, or domes. Granitic soils. Elevations: 3395-11485ft. (1035-3500m.) Blooms Mar-Jun.
Lupinus lepidus var. culbertsonii Hockett Meadows lupine	None/None G3G4T3/S2 1B.3	Perennial herb. Meadows and seeps, upper montane coniferous forest. Generally mesic, rocky sites. Elevations: 8005-9845ft. (2440-3000m.) Blooms Jul-Aug.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Lupinus padrecrowleyi Father Crowley's lupine	None/SR G2/S2 1B.2	Great Basin scrub, Riparian forest, Riparian scrub, Upper montane coniferous forest. Decomposed granitic 2200-4000m. Blooms Jul-Aug.
Meesia uliginosa broad-nerved hump moss	None/None G5/S3 2B.2	Moss. Bogs and fens, meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Moss on damp soil. Often found on the edge of fens or raised above the fen on hummocks/shrub bases. Elevations: 3970-9200ft. (1210-2804m.) Blooms Jul-Oct.
Mielichhoferia shevockii Shevock's copper moss	None/None G2/S2 1B.2	Moss. Cismontane woodland. Moss on metamorphic rocks containing heavy metals; mesic sites. On rocks along roads, in same habitat as Mielichhoferia elongata. Elevations: 2460-4595ft. (750-1400m.)
Monardella beneolens sweet-smelling monardella	None/None G2/S2 1B.3	Perennial rhizomatous herb. Alpine boulder and rock field, subalpine coniferous forest, upper montane coniferous forest. Granitic soils; open conifer forest with Eriogonum spp.,Trifolium, Erigeron, etc. Elevations: 8120-11485ft. (2475-3500m.) Blooms Jun-Sep.
Monardella linoides ssp. anemonoides southern Sierra monardella	None/None G5T2/S2 1B.3	Perennial herb. Chaparral, cismontane woodland, lower montane coniferous forest. Elevations: 2200-8040ft. (670-2450m.) Blooms Jun-Aug.
Monolopia congdonii San Joaquin woollythreads	FE/None G2/S2 1B.2	Annual herb. Chenopod scrub, valley and foothill grassland. Alkaline or loamy plains; sandy soils, often with grasses and within chenopod scrub. Elevations: 195-2625ft. (60-800m.) Blooms Feb-May.
Myurella julacea small mousetail moss	None/None G5/S2 2B.3	Moss. Alpine boulder and rock field, subalpine coniferous forest. Moss growing on damp limestone rock and soil. Crevices, underhangs, shelves; in filtered light. Sometimes on granite. Elevations: 8860-9845ft. (2700-3000m.)
Navarretia nigelliformis ssp. radians shining navarretia	None/None G4T2T3/S2S3 1B.2	Annual herb. Cismontane woodland, valley and foothill grassland, vernal pools. Apparently in grassland, and not necessarily in vernal pools. Elevations: 215-3280ft. (65-1000m.) Blooms (Mar)Apr-Jul.
Navarretia setiloba Piute Mountains navarretia	None/None G2/S2 1B.1	Annual herb. Cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Red clay soils, or on gravelly loam. Elevations: 935-6890ft. (285-2100m.) Blooms Apr-Jul.
Nemacladus bellus beautiful threadplant	None/None G2/S2 1B.3	Cismontane woodland, Joshua tree "woodland". Granitic, Gravelly, Sandy 800-1800m. Blooms (Apr)May-Jul.
Nemacladus calcaratus Chimney Creek nemacladus	None/None G1/S1 1B.2	Annual herb. Pinyon and juniper woodland. Openings on granitic substrate. Elevations: 6235-6890ft. (1900-2100m.) Blooms May-Jun.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Nemacladus twisselmannii var. twisselmannii Twisselmann's nemacladus	None/SR G1T1/S1 1B.2	Upper montane coniferous forest (granitic, sandy or rocky). Sandy or rocky granitic soils, open ridgetops and gentle slopes in Jeffrey pine forest. 2240-2450m. Blooms Jul.
Orcuttia inaequalis San Joaquin Valley Orcutt grass	FT/SE G1/S1 1B.1	Annual herb. Vernal pools. Elevations: 35-2475ft. (10-755m.) Blooms Apr-Sep.
Oreonana purpurascens purple mountain-parsley	None/None G3/S3 1B.2	Perennial herb. Broadleafed upland forest, subalpine coniferous forest, upper montane coniferous forest. Open, metamorphic ridgetops in red fir forest. Elevations: 7860-9400ft. (2395-2865m.) Blooms May-Jun.
Packera indecora rayless mountain ragwort	None/None G5/S2? 2B.2	Perennial herb. Meadows and seeps. Mesic sites. Elevations: 4755-6560ft. (1450-2000m.) Blooms Jul-Aug.
Petrophytum caespitosum ssp. acuminatum marble rockmat	None/None G5T2/S2 1B.3	Perennial evergreen shrub. Lower montane coniferous forest, upper montane coniferous forest. Limestone or granite. Rocky sites. Elevations: 3330-7545ft. (1015-2300m.) Blooms Aug-Sep.
Phacelia nashiana Charlotte's phacelia	None/None G3/S3 1B.2	Annual herb. Joshua tree woodland, mojavean desert scrub, pinyon and juniper woodland. Granitic soils; sandy or rocky areas on steep slopes or flats. Elevations: 1970-7220ft. (600-2200m.) Blooms Mar-Jun.
Phacelia novenmillensis Nine Mile Canyon phacelia	None/None G3/S3 1B.2	Annual herb. Broadleafed upland forest, cismontane woodland, pinyon and juniper woodland, upper montane coniferous forest. Dry disturbed banks, granitic or metamorphic soils; sandy or gravelly sites. Elevations: 5395-8660ft. (1645-2640m.) Blooms (Feb)May-Jun.
Plagiobothrys torreyi var. torreyi Yosemite popcornflower	None/None G4T3Q/S3 1B.2	Annual herb. Lower montane coniferous forest, meadows and seeps. Elevations: 3935-4495ft. (1200-1370m.) Blooms Apr-Jun.
Poa lettermanii Letterman's blue grass	None/None G4/S3 2B.3	Perennial herb. Alpine boulder and rock field. Sandy or rocky sites. Elevations: 11485-13995ft. (3500-4265m.) Blooms Jul-Aug.
Pohlia tundrae tundra thread moss	None/None G4/S3 2B.3	Moss. Alpine boulder and rock field. Moss growing on gravelly, damp soil. Elevations: 8860-9845ft. (2700-3000m.)
Pseudobahia peirsonii San Joaquin adobe sunburst	FT/SE G1/S1 1B.1	Annual herb. Cismontane woodland, valley and foothill grassland. Grassy valley floors and rolling foothills in heavy clay soil. Elevations: 295-2625ft. (90-800m.) Blooms Feb-Apr.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Puccinellia simplex California alkali grass	None/None G2/S2 1B.2	Annual herb. Chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools. Alkaline, vernally mesic. Sinks, flats, and lake margins. Elevations: 5-3050ft. (2-930m.) Blooms Mar-May.
Ribes menziesii var. ixoderme aromatic canyon gooseberry	None/None G4T2/S2 1B.2	Perennial deciduous shrub. Chaparral, cismontane woodland. In forest openings. Elevations: 2000-3805ft. (610-1160m.) Blooms Apr.
Ribes tularense Sequoia gooseberry	None/None G1/S1 1B.3	Perennial deciduous shrub. Lower montane coniferous forest, upper montane coniferous forest. In sandy loam derived from granitics or deep clays. With Abies, Pinus, Ribes, etc. Elevations: 4920-6810ft. (1500-2075m.) Blooms May.
Sabulina stricta bog sandwort	None/None G5/S3 2B.3	Perennial herb. Alpine boulder and rock field, alpine dwarf scrub, meadows and seeps. Moist, granitic gravelly sites in sedge meadows and other alpine habitats. Elevations: 8005-12995ft. (2440-3960m.) Blooms Jul-Sep.
Sagittaria sanfordii Sanford's arrowhead	None/None G3/S3 1B.2	Perennial rhizomatous herb (emergent). Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. Elevations: 0-2135ft. (0-650m.) Blooms May-Oct(Nov).
Senecio aphanactis chaparral ragwort	None/None G3/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625ft. (15-800m.) Blooms Jan-Apr(May).
Sidalcea keckii Keck's checkerbloom	FE/None G2/S2 1B.1	Annual herb. Cismontane woodland, valley and foothill grassland. Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. Elevations: 245-2135ft. (75-650m.) Blooms Apr-May(Jun).
Sidalcea multifida cut-leaf checkerbloom	None/None G3/S2 2B.3	Perennial herb. Great basin scrub, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland. Elevations: 5740-9185ft. (1750-2800m.) Blooms May-Sep.
Sphenopholis obtusata prairie wedge grass	None/None G5/S2 2B.2	Perennial herb. Cismontane woodland, meadows and seeps. Open moist sites, along rivers and springs, alkaline desert seeps. Elevations: 985-6560ft. (300-2000m.) Blooms Apr-Jul.
Streptanthus gracilis alpine jewelflower	None/None G3/S3 1B.3	Annual herb. Subalpine coniferous forest, upper montane coniferous forest. Gravel pockets among granitic outcrops and talus boulders. Elevations: 9185-11485ft. (2800-3500m.) Blooms Jul-Aug.
Trichodon cylindricus cylindrical trichodon	None/None G4G5/S2 2B.2	Moss. Broadleafed upland forest, meadows and seeps, upper montane coniferous forest. Moss growing in openings on sandy or clay soils on roadsides, stream banks, trails or in fields. Elevations: 165-6570ft. (50-2002m.)

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CRPR	Habitat Requirements
Trifolium dedeckerae Dedecker's clover	None/None G2/S2 1B.3	Perennial herb. Lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest. Gravelly canyons and slopes, cracks in granite rock outcrops, and understory of pinyon pines. Elevations: 6890-11485ft. (2100-3500m.) Blooms May-Jul.
Triglochin palustris marsh arrow-grass	None/None G5/S2 2B.3	Perennial rhizomatous herb. Marshes and swamps, meadows and seeps, subalpine coniferous forest. Mesic sites. Elevations: 7495-12140ft. (2285-3700m.) Blooms Jul-Aug.
Tuctoria greenei Greene's tuctoria	FE/SR G1/S1 1B.1	Annual herb. Vernal pools. Vernal pools in open grasslands. Elevations: 100-3510ft. (30-1070m.) Blooms May-Jul(Sep).
Utricularia intermedia flat-leaved bladderwort	None/None G5/S3 2B.2	Perennial stoloniferous herb (carnivorous) (aquatic). Bogs and fens, marshes and swamps, meadows and seeps, vernal pools. Mesic meadows, lake margins, marshes, fens. Elevations: 3935-8860ft. (1200-2700m.) Blooms Jul-Aug.
Viola pinetorum ssp. grisea grey-leaved violet	None/None G4G5T3?/S3 1B.2	Perennial herb. Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Dry mountain peaks and slopes. Elevations: 4920-11155ft. (1500-3400m.) Blooms Apr-Jul.

FE = Federally Endangered FT = Federally Threatened DL = Delisted
SE = State Endangered ST = State Threatened SR = State Rare
G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind5.

CRPR (California Rare Plant Rank):
1A=Presumed Extinct in California
1B=Rare, Threatened, or Endangered in California and elsewhere
2=Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension:
.1=Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2=Fairly endangered in California (20-80% occurrences threatened)
.3=Not very endangered in California (<20% of occurrences threatened)
Sources: CNDDB (CDFW 2026a); USFWS IPaC (2026a), and CNPS Rare Plant Inventory (2026a)

Table B-2 Special-Status Wildlife Species with the Potential to Occur within TCAG Region

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CDFW	Habitat Requirements
Invertebrates		
Bombus crotchii Crotch's bumble bee	None/SCE G2/S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.
Bombus occidentalis western bumble bee	None/SCE G3/S1	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.
Branchinecta lynchi vernal pool fairy shrimp	FT/None G3/S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.
Desmocerus californicus dimorphus valley elderberry longhorn beetle	FT/None G3T3/S3	Occurs only in the Central Valley of California, in association with blue elderberry (Sambucus mexicana). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.
Lepidurus packardi vernal pool tadpole shrimp	FE/None G3/S3	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.
Fish		
Oncorhynchus mykiss aguabonita California golden trout	None/None G5T1/S1 SSC	Native to Kern Plateau in wide, shallow and exposed streams with little riparian vegetation. Transplanted within and outside of California beyond native range. Stream bottoms of sand, gravel and some cobble. Water is clear and usually cold, but summer temperatures can vary from 3 to 22 degrees C.
Oncorhynchus mykiss gilberti Kern River rainbow trout	None/None G5T1Q/S1 SSC	Endemic to the upper Kern River and its tributaries. Cool, clear, fast flowing streams where riffles are abundant.
Oncorhynchus mykiss whitei Little Kern golden trout	FT/None GNRT3/S3 SSC	Native to the Little Kern River in Tulare County. Found in clear, cold mountain streams and lakes at 5,000 to 9,000 ft. Need well-oxygenated, gravel-bottomed shallows for spawning.
Amphibians		
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	FT/ST G3T3/S3 WL	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.
Lithobates pipiens northern leopard frog	None/None G5/S2 SSC	Native range is east of Sierra Nevada-Cascade Crest. Near permanent or semi-permanent water in a variety of habitats. Highly aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CDFW	Habitat Requirements
Rana boylii pop. 5 foothill yellow-legged frog - south Sierra DPS	FE/SE G3T2/S2	Sierra Nevada from South Fork American River subbasin (HU 8) in El Dorado County south to Tehachapi Mountains in Kern County. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.
Rana muscosa southern mountain yellow-legged frog	FE/SE G1/S2 WL	Disjunct populations known from southern Sierras (northern DPS) and San Gabriel, San Bernardino, and San Jacinto Mtns (southern DPS). Found at 1,000 to 12,000 ft in lakes and creeks that stem from springs and snowmelt. May overwinter under frozen lakes. Often encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.
Spea hammondii western spadefoot	FPT/None G2G3/S3S4 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.
Reptiles		
Actinemys marmorata northwestern pond turtle	FPT/None G2/SNR SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. Occurs in northern California, south along the Sierra Nevada Mountains and the Coast Range down to Monterey and Kern Counties.
Anniella grinnelli Bakersfield legless lizard	None/None G2G3/S2S3 SSC	Southern San Joaquin Valley. Known from two disjunct areas: the east side of the Carrizo Plain and portions of the city limits of Bakersfield. Microhabitat of this species is poorly known. Other legless lizard species occur in sparsely vegetated areas with moist, loose soil. Often found underneath leaf litter, rocks, and logs.
Anniella pulchra Northern California legless lizard	None/None G3/S2S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.
Anniella spp. California legless lizard	None/None G3G4/S3S4 SSC	Contra Costa County south to San Diego, within a variety of open habitats.This element represents California records of Anniella not yet assigned to new species within the Anniella pulchra complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.
Charina bottae umbratica southern rubber boa	None/ST G2G3/S2	Found in a variety of montane forest habitats. Previously considered morphologically intermediate, recent (2022) genomic analysis clarifies individuals from Mt Pinos, Tehachapi Mts, and southern Sierra Nevada are southern rubber boa. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CDFW	Habitat Requirements
Gambelia sila blunt-nosed leopard lizard	FE/SE G1/S2 FP	Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.
Masticophis flagellum ruddocki San Joaquin coachwhip	None/None G5T2T3/S3 SSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.
Phrynosoma blainvillii coast horned lizard	None/None G4/S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.
Birds		
Agelaius tricolor tricolored blackbird	None/ST G3/S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.
Anarhynchus montanus mountain plover	None/None G3/S2 SSC	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.
Anarhynchus nivosus nivosus western snowy plover	FT/None G3T3/S3 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.
Aquila chrysaetos golden eagle	None/None G5/S3 FP WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
Astur atricapillus American goshawk	None/None G5/S3 SSC	Within, and in vicinity of, coniferous forest. Uses old nests, and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.
Athene cunicularia burrowing owl	None/SCE G4/S2 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.
Buteo swainsoni Swainson's hawk	None/ST G5/S4	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT/SE G5T2T3/S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CDFW	Habitat Requirements
Cypseloides niger black swift	None/None G4/S2 SSC	Coastal belt of Santa Cruz and Monterey counties; central & southern Sierra Nevada; San Bernardino & San Jacinto mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.
Dendragapus fuliginosus howardi Mount Pinos sooty grouse	None/None G5T2T3/S2S3 SSC	Inhabitant of southern Sierra Nevada mountains, in small islands of populations. Mainly inhabits white fir covered slopes. Also found in other conifer types and open, brushy areas adjacent to forest.
Empidonax traillii willow flycatcher	None/SE G5/S3	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2000-8000 ft elevation. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.
Gymnogyps californianus California condor	FE/SE G1/S2 FP	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.
Haliaeetus leucocephalus bald eagle	FD/SE G5/S3 FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.
Lanius ludovicianus loggerhead shrike	None/None G4/S4 SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.
Strix nebulosa great gray owl	None/SE G5/S1	Resident of mixed conifer or red fir forest habitat, in or on edge of meadows. Requires large diameter snags in a forest with high canopy closure, which provide a cool sub-canopy microclimate.
Toxostoma bendirei Bendire's thrasher	None/None G4/S4 SSC	Migratory; local spring/summer resident in flat areas of desert succulent shrub/Joshua tree habitats in Mojave Desert. Nests in cholla, yucca, palo verde, thorny shrub, or small tree, usually 0.5 to 20 feet above ground.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S3	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.
Mammals		
Ammospermophilus nelsoni Nelson's (=San Joaquin) antelope squirrel	None/ST G2G3/S3	Occurs in Western San Joaquin Valley from 200-1200 feet elevation. Uses dry, sparsely vegetated areas with a variety of soils suitable for digging. Digs burrows or uses kangaroo rat or other small mammal burrows. Needs widely scattered shrubs, forbs, and grasses in broken terrain, often with gullies and washes.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CDFW	Habitat Requirements
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
Aplodontia rufa californica Sierra Nevada mountain beaver	None/None G5T3T4/S2S3 SSC	Dense growth of small deciduous trees & shrubs, wet soil, & abundance of forbs in the Sierra Nevada & east slope. Needs dense understory for food & cover. Burrows into soft soil. Needs abundant supply of water.
Canis lupus gray wolf	FE/SE G5/S1	Habitat generalists, historically occupying diverse habitats including tundra, forests, grasslands, and deserts. Primary habitat requirements are the presence of adequate ungulate prey, water, and low human contact.
Corynorhinus townsendii Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls & ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.
Dipodomys nitratoides nitratoides Tipton kangaroo rat	FE/SE G2T1T2/S2	Found in saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. Needs soft friable soils for burrowing which do not experience seasonal flooding. Often digs burrows in elevated mounds, including the base of shrubs in densely vegetated areas.
Euderma maculatum spotted bat	None/None G4/S3 SSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Typically forages in open terrain; over water and along washes. Feeds almost entirely on moths. Roosts in rock crevices in cliffs or caves. Occasionally roosts in buildings.
Eumops perotis californicus western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.
Gulo gulo California wolverine	None/ST G4/S1 FP	Found in the north coast mountains and the Sierra Nevada. Found in a wide variety of high elevation habitats. Needs water source. Uses caves, logs, burrows for cover and den area. Hunts in more open areas. Can travel long distances.
Onychomys torridus tularensis Tulare grasshopper mouse	None/None G5T1T2/S1S2 SSC	Hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Diet almost exclusively composed of arthropods, therefore needs abundant supply of insects.
Ovis canadensis sierrae Sierra Nevada bighorn sheep	FE/SE G4T2/S2 FP	Historically found along the east side and crest of the Sierra Nevada, and on the Great Western Divide. Available water and steep, open terrain free of competition from other grazing ungulates.
Pekania pennanti pop. 2 Fisher - Southern Sierra Nevada ESU	FE/ST G5T1/S1 SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.

Scientific Name Common Name	Status Fed/State ESA Global Rank/ State Rank CDFW	Habitat Requirements
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.
Vulpes macrotis mutica San Joaquin kit fox	FE/ST G4T2/S3	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.
Vulpes vulpes necator pop. 2 Sierra Nevada red fox - Sierra Nevada DPS	FE/ST G5T1/S1	Use multiple habitat types in the alpine and subalpine zones including high-elevation conifer dominated by whitebark pine, mountain hemlock and lodgepole pine, as well as meadows and fell-fields; typically in areas of heavy snow cover. Generally above 1,200 meters (3,900 feet).

FT = Federally Threatened
FC = Federal Candidate Species
FE = Federally Endangered
FS = Federally Sensitive
FPT = Federally Proposed Threatened
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind3
SSC = CDFW Species of Special Concern
FP = Fully Protected
WL = Watch List
Sources: CNDDB (CDFW 2021a); USFWS IPaC (2026a)

Appendix D

TCAG Traffic Demand Model

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TULARE COUNTY ASSOCIATION OF GOVERNMENTS ACTIVITY-BASED MODEL UPDATE



June 2026

Tulare County Association of Governments

TULARE COUNTY ASSOCIATION OF GOVERNMENTS

TULARE COUNTY ASSOCIATION OF GOVERNMENTS ACTIVITY-BASED MODEL UPDATE

Tulare AB Model Update Report:

Tulare County Association of Governments Activity-Based Model Update

Report Prepared by:

RSG

Report Prepared for:

Tulare County Association of Governments

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1.0 INTRODUCTION

This report describes updates to the Tulare County Association of Governments (Tulare CAG) activity-based travel demand model (ABM) to meet existing and evolving transportation planning needs.

The report describes the updated ABM system in detail and also serves as a user's guide for the model system. The ABM uses the DaySim activity-based model platform[1] for resident travel demand integrated with Bentley Cube software[2], which is primarily used for network models (skimming and assignment) and auxiliary demand models (truck model). The ABM is calibrated to a new base year (2022) using the 2022-2023 Central California Travel Survey (subsequently referred to as the 2023 CCTS). The model system is also validated against 2022 observed data for traffic counts, vehicle miles traveled (VMT), and transit ridership.

This project undertook the following key tasks to update the Tulare activity-based model:

- Implemented the latest version of DaySim activity-based model platform
- Updated input external auto and truck trip tables using 2022 Streetlight Data
- Developed inputs for a new base year (2022)
- Updated the time and cost parameters in the DaySim tour mode choice model to make the derived value of time by purpose more reasonable
- Activated telecommuting model functionality in DaySim[3]
- Processed the 2022-2023 CCTS to develop calibration targets
- Calibrated and validated key submodels in the base year model
- Updated the model GitHub repository with the latest model setup[4]

The rest of this report refers to the ABM system as "Tulare ABM" and is organized as follows. The next chapter, Chapter 2, presents an overview of the ABM system. Chapter 3 presents various summaries of outputs from the calibrated and validated model. Chapter 4 discusses the tests examining model sensitivities to land-use and network changes. Chapter 5 provides

[1] https://github.com/RSGInc/DaySim
[2] https://docs.bentley.com/LiveContent/web/OpenPaths%20Help-v1/en/GUID-912A4C66-0CA7-4F87-BCEE-61A08366389D.html
[3] https://github.com/RSGInc/DaySim/wiki/Telecommute-Model
[4] Tulare ABM GitHub repository maintained by RSG (private and requires RSG permission): https://github.com/RSGInc/TulareABM/tree/TulareABM_2022

instructions to run the model system. The appendices (A-E) at the end of the report provide supplemental information about various tasks performed during this project.

2.0 MODEL DESIGN

This model update includes updating the model base year from to 2022 and adding model feature enhancements. As such, the 2022 model design and structure are identical to the previous version of the model (except for the enhancements).

Prior to the full model run, if the PopulationSim has not been run before for a new land use or horizon year scenario, it needs to be run as a standalone script first. Now, the PopulationSim is integrated within the model system and the step can be found inside the 'DaySimInputPrep' module described immediately below to facilitate future integration. The steps for updating the synthetic population controls and targets are outlined in Appendix B.

2.1 OVERVIEW

Figure 1 presents the structure of the new Tulare ABM system showing relationships among different sub-model components.

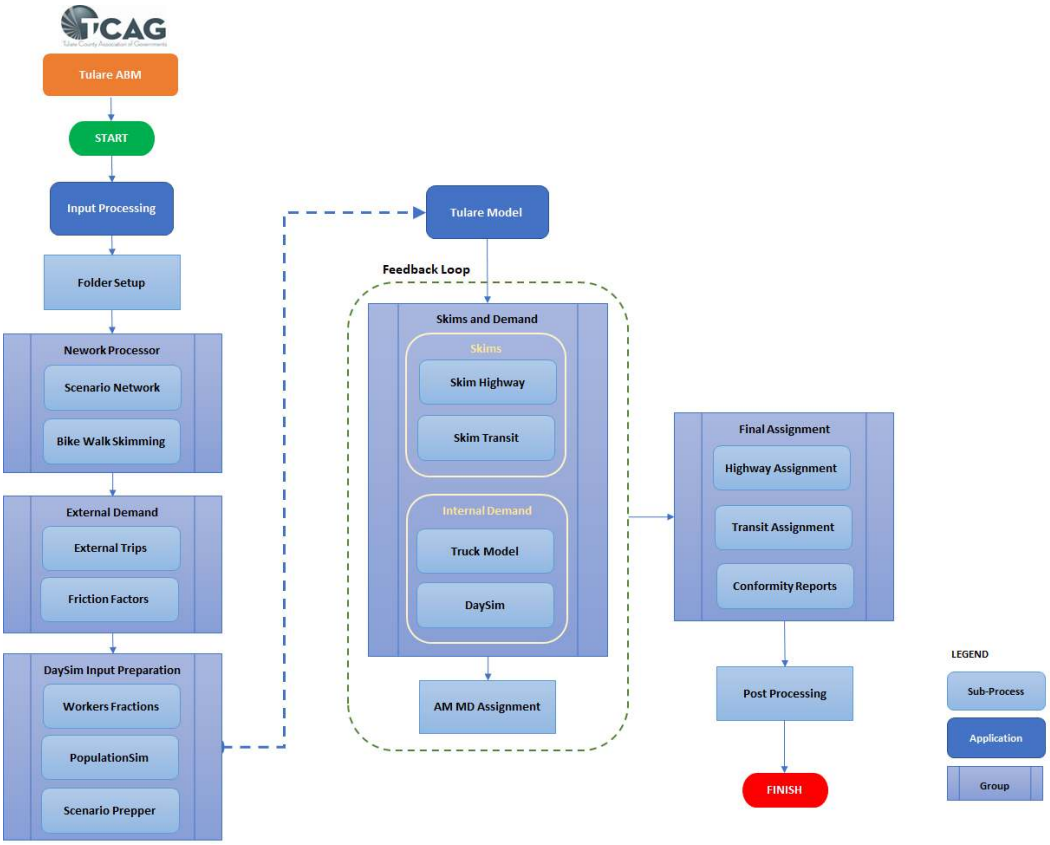


FIGURE 1: MODEL PROCESS FLOW

The ABM consists of two sequential steps: Input Processing and SJV Model. These steps can be launched with a single run command from the Cube catalog. The first step, Input Processing, processes the model network and creates inputs required in the second step, SJV Model, which performs network skimming, demand generation, and assignment in three feedback loops.

The Input Processing step first converts the input CUBE network into scenario specific CUBE network formats (highway, transit, and non-motorized) for network skimming and assignment procedures. As non-motorized assignments are not capacity constrained, re-skimming of bike and walk are not required in every feedback loop. Therefore, an initial set of bike and walk skims are generated to use in every feedback loop. Similarly, this step formats external demand matrices (auto and truck) which are kept static across all feedback loops. Other static inputs specific to DaySim are prepared in the new DaySim Input Preparation Module.

After the networks are prepared in the required format, the second step, SJV Model, runs three feedback loops. Each feedback loop starts with generating highway and transit skims to use in demand models. A set of demand models produces demand for two travel markets in theTulare County region: resident travel and truck travel. The resident travel demand is generated by DaySim, whereas the truck demand is produced by the truck model, which is retained from the Valley Model Improvement Plan Version 2 (VMIP2) model. The two sets of travel demand, along with the external demand (auto and truck) generated in the first step, input processing, are combined into four time-period specific highway demand matrices with each having OD demand by multiple highway classes based on vehicle type and value of time. Similarly, the transit demand from DaySim is also prepared into four time-period specific transit demand matrices with each having multiple transit assignment classes based on transit sub-mode and access mode. The non-motorized (bike and walk) demand comes from the DaySim model and the corresponding matrices represent daily demand. After the demand matrices are constructed, two highway assignments are run: peak (AM), and off-peak (MD). Note that transit assignment is run only once, in the final assignment step after the feedback loops. The link flows from the highway assignments then inform new link travel times for the next feedback loop.

After the model system runs three feedback loops of skimming, demand, and assignment, a final assignment step runs assignment for all network systems (highway, transit, and non-motorized). The final highway assignment is run for four time periods (AM, MD, PM, and EV) and the transit assignment is performed for peak and off-peak periods. The non-motorized assignments are run for daily demand. After the network assignments, the last step of the model system summarizes the assignment results and produces files/reports to use for analysis.

Note that before running DaySim, a utility called “Buffer Tool” generates a buffered micro-zone file (land-use and accessibility measure for micro-zones) to use in DaySim. Also, a python tool called “population sampler” updates the input synthetic population to oversample households by a factor of 3.0 to reduce the Monte Carlo variance for an individual DaySim model run.

The Tulare ABM system process is comprised of the following key elements: input preparation, network skimming, demand generation, assignment preparation, assignment preparation, assignment, feedback loop, and reporting. The following sections discuss these processes in more detail.

2.2 INPUT PREPARATION

The first step of the model system, Input Processing, performs all necessary calculations and conversions to prepare networks and other inputs for processes in the second step, Tulare ABM, of the model system. This input preparation process undertakes the following primary tasks that are completed sequentially:

- Setup scenario directory
- Create scenario networks
- Generate non-motorized skims
- Generate external demand
- Generate transit stops file
- Generate intersection density file
- Generate truck model socio-economic (SE) file
- Generate internal-external worker fractions (Optional)
- Generate synthetic population (Optional)

Setup Scenario Directory

When the input processing step is started, it first creates a scenario directory with all necessary sub-folders required at any step of the model system.

Create Scenario Networks

After setting up a scenario directory, the process reads the input all-street highway network and transit network from an input network geodatabase (*.gdb) and processes them to convert into scenario networks. In addition to generating necessary fields, this step filters out minor streets to create a coarser auto network for use in skimming and assignment.

Note that the process of creating the CUBE format highway network does not check for connectivity. The accuracy of the output network is entirely dependent on how well the attributes that are used in the street filtering process are coded in the all-street network. Additionally, a coarser network may miss some streets with substantial traffic, thus causing, on some links, higher model flows than observed traffic counts. A substantial effort was made to track down

and resolve such network dysconnectivity and missing link issues during the model validation phase of this project.

Generate Non-Motorized Skims

Since non-motorized network models are not constrained by capacity, non-motorized networks are skimmed only once, during network preparation, and non-motorized assignment is run once during the final assignment step after all feedback loops have completed.

The non-motorized skimming procedures use the all-street network and generate distance skims for MAZ OD pairs[5]. The input preparation step creates a separate non-motorized network from the input all-street network and generates one distance skim for each of the two non-motorized modes. The distance skims are generated using a Cube-based shortest path method. Both walk and bike distances are based on a distance-based shortest path.

The skimming process first strips out all freeway facilities from the all-street network and then calculates a bike generalized cost (BIKE_MINMILE) for each link in the network. As Cube expects skim zones (nodes) to be numbered from 1, the node ids in the resulting non-motorized network are updated to bring MAZ centroids in the beginning and the rest of the nodes start after them. This was done by subtracting 100,000 if node id is greater than 100,000 (MAZ centroids) and adding 100,000 otherwise (street nodes). Both node and link files were updated to reflect the new node id numbering scheme. Now, this updated network is used to generate bike and walk skims using a Cube utility (BUILDPATH) that, for every OD pair, summarizes an attribute on a shortest path based on a user provided cost function, which is the distance for both walk and bike.

Generate External Demand

The Activity-Based Model (ABM) system incorporates two distinct sets of external demand: auto demand and truck demand. These external trip tables were developed prior to the model run using the 2022 Streetlight data and are provided as static inputs to the system.

These tables were processed into six auto matrices (representing four model time periods and two peak-hour sub-periods) and one daily truck matrix. The auto trip tables isolate vehicle trips by three occupancy classes: drive-alone, shared-ride 2, and shared-ride 3+. The truck tables segment demand by two vehicle weight classes: medium duty and heavy duty. As a final calibration step, the trip tables were adjusted to closely align modeled volumes with observed traffic counts at external stations. These finalized, adjusted trip tables serve as static inputs to the Tulare ABM system.

[5] Auto trips are significantly longer and calculating impedances at a finer detail (MAZ) than TAZ would not be worth adding substantial run time to the model system.

Future-year external trip tables are generated by applying growth factors—segmented by trip type: Internal-External (I-E), External-Internal (E-I), and External-External (E-E)—to the base-year matrices. These growth factors are derived from demographic trends published in the California Department of Finance (DOF) population projections. Specifically, population growth rates within Tulare County and its neighboring counties are utilized to determine growth factors for I-E and E-I trips, while the statewide population growth rate for California is applied to scale E-E trips.

Generate Transit Stops File

The transit stops file is created using the input transit network and is automated in the input processing step of the model. The module “Scenario Prepper” inside the ‘DaySimInputPrep’ module contains the process to generate this file. It is run after the network processor. First, the highway network is exported to shapefiles as links and nodes. Next, a python script reads the node shapefile and processes the transit line file to read all the stop nodes with their associated transit mode. This information is joined to the coordinate data of the nodes and exported in the format shown in Figure 2. The stops file is in the following format:

id	mode	xcoord_p	ycoord_p
1	1	6309142	2167872
2	1	6309117	2166434
3	1	6309112	2165240
4	1	6307677	2165242
5	1	6306517	2165245
6	1	6306529	2166560
7	1	6306503	2167889
8	1	6309149	2169329
9	1	6309154	2170526
10	1	6309171	2171830
11	1	6307831	2173200
12	1	6306543	2173215
13	1	6305216	2173227
14	1	6303896	2173225
15	1	6303887	2174830

FIGURE 2: TRANSIT STOPS FILE FORMAT

Generate Intersection Density File

The intersection file provides the number of roads (links) at an intersection (node). The all-street network in the model is a dual road network where a two-way street is represented as one link for each direction. A two-way road is represented by two links representing to and from

direction. Therefore, the all-street network cannot simply be used to calculate number of links at an intersection. First, we need to simplify the network and then process to create the intersection file.

This step in the input prepper reads the exported link file that was created at the beginning of the DaySim Input Prep step and uses a python script to pare the network down to single roadway links. The python script joins this to the node layer and the intersection link counts are saved in the appropriate format as described in section 5.5.

Generate Truck Model Socio-economic File

The truck model requires a socio-economic (SE) data file at the TAZ level with employment categories filled. This data is already available in the MAZ land use data file that is used as an input to DaySim. This step simply aggregates the data to the TAZ level and saves it in the appropriate format for the truck model. This step simplifies the model input preparation as now changes to land use need to be made only in the MAZ land use data file. The employment categories used in the truck model are slightly different than those available in the MAZ land use file. So, a crosswalk, shown in Table 1, is used to reformat these categories.

TABLE 1: DAYSIM TO TRUCK MODEL EMPLOYMENT CATEGORY CROSSWALK

MAZ FIELD (DAYSIM)	TAZ FIELD (TRUCK)
empgov_p	EMPGOV
empind_p	EMPIND
empmed_p	EMPMED
empofc_p	EMPOFC
empret_p	EMPRET
empsvc_p	EMPOTH
empoth_p	EMPAGR
emptot_p	TOTEMP

Generate Internal-External (IXXI) Worker Fractions

The IXXI (internal-external and external-internal) worker fractions are zonal share of resident workers working outside Tulare County and zonal share of employment occupied by non-resident workers. These are input into the DaySim model and are generated by summarizing Longitudinal Employer Household Dynamics (LEHD) worker flow data, the latest year available at the time of the model update. This model input only needs to be updated when the base year of the model is changed, or new data is available. This step is optional in the CUBE catalog and can be set to run using the CUBE key “Run_WorkerFrac”.

2.3 NETWORK SKIMMING

The model system generates impedances (skims) for three sets of networks: highway, transit, and non-motorized. The highway and transit skims are (re)generated at the beginning of each feedback loop. The non-motorized skims are generated one-time in the Input Processing step, before the feedback loops.

Highway

The highway skimming process generates 6 skim matrices for two time periods (peak and off-peak) and three auto modes (drive-alone (DA), shared-ride 2 (SR2), and shared-ride 3+ (SR3)). Each highway skim matrix contains the following impedances in three value of time categories:

- Generalized time (mins)
- Time (mins)
- Distance (miles)
- Cost (dollars)

Note that the highway system reads auto operating cost (AOC) from an input CSV file that contains AOC by scenario years, which is based on 2022 dollars. To maintain consistency between demand and supply models, before each run, the DaySim configuration file is updated dynamically to reflect the same auto operating cost.

Transit

The transit skimming process generates 8 skim matrices for two time periods (peak and off-peak), two transit sub-modes (local bus, and light rail), and two access modes (walk and drive). Each transit skim matrix contains the following impedances:

- Transit in-vehicle time (mins)
- Walk access time (mins)
- Walk egress time (mins)

- Transfer walk time (mins)
- Initial wait time (mins)
- Transfer wait time (mins)
- Fare (dollars)
- Boardings
- Transit in-vehicle time for local bus (mins)
- Transit in-vehicle time for express bus (mins)
- Transit in-vehicle time for BRT (mins)

The transit system a fixed fare system. The fixed fare of $0.5 and $1 are applied to Dinuba Area Regional Transit (DART) and other transit services respectively.

Non-motorized

The non-motorized skimming process generates two Cube matrices for bike and walk distances by MAZ OD pairs. The walk distances are produced in a text format as well for use in the DaySim buffer tool[6].

2.4 TRAVEL DEMAND

The model system encompasses three sets of travel demand: resident travel, truck travel, and auxiliary travel. DaySim simulates the internal travel for the Tulare residents. Truck travel within the region is produced by the truck model. Auxiliary demand such as external travel (auto and truck) are provided as inputs in the form of trip tables to the model system.

Resident Model (DaySim)

DaySim is an activity-based (AB) travel demand model. DaySim simulates 24-hour itineraries for individuals with parcel-level spatial resolution and minute-level temporal resolution. DaySim can generate outputs at the level of resolution required as input to dynamic traffic simulation. DaySim's forecasts in all dimensions (activity and travel generation, tours and trip-chaining, destinations, modes, and timing) are sensitive to travel times and costs that vary by mode, origin–destination path, and time of day. As a result, DaySim uses the improved network travel costs and times output from a dynamic traffic simulator as inputs. DaySim captures the effects of travel time and cost upon activity and travel choices. These effects are balanced across modes and times of day and are consistent with the econometric theory of nested choice

[6] A DaySim input preparation tool that generates a buffered micro-zone file that contains several land-use and accessibility variables.

models. DaySim can be used in a distributed manner by running different partitions of the study area population on separate processors and then merging the results.

DaySim comprises several subcomponents and is structured as a series of hierarchical or nested choice models. DaySim's hierarchy places the long-term models at the top of the choice hierarchy and places the short-term models at successively lower levels in the hierarchy. The detailed hierarchy and flow through the model are illustrated in Figure 3.

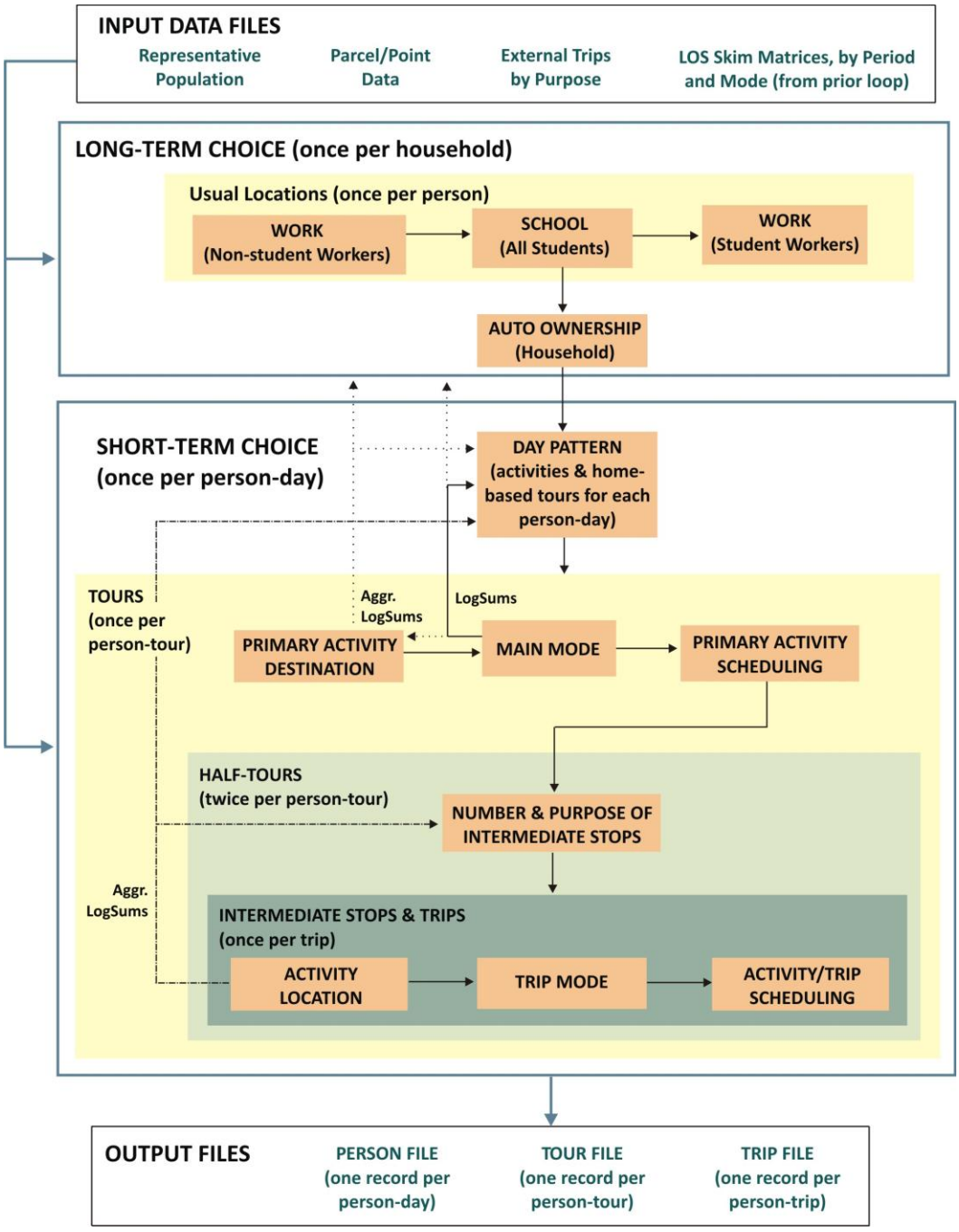


FIGURE 3: DAYSIM SUB-MODELS

The flow generally proceeds in a linear fashion from the long-term models to the short-term models. The choices made in the long-term models influence or constrain the choices made in the lower-level models. For example, household auto ownership affects both day pattern and

tour (and trip) mode choice by including auto ownership variables in those component models. In addition to these direct influences, utilities from lower-level models flow upward to higher-level models. “Logsums” (expected utilities) from tour destination and tour mode choice models affect other short-term models as well as upper-level, longer-term models. Some of the logsums from lower-level models are aggregated for use in the long-term models in order to reduce the computational time required to use fully detailed disaggregate logsums in a complex nesting structure.

This model update included updates to the DaySim code to allow for paid ride share modes such as Uber/Lyft services, which may also be toggled to allow these services to be provided by automated vehicles (AVs). Additionally, the new DaySim code also includes a telecommute sub-model which allows resident workers to make the choice to telecommute (different from working from home and having no out-of-home work location). More details on these parameters can be found in Appendix D.

Buffering and Transit Access Preparation

In DaySim, it is important to have measures not only within a particular micro-zone, but also for the area immediately surrounding each micro-zone. These measures are created by defining a “buffer” area around each micro-zone and counting what lies inside the buffer. These variables can then be used in DaySim, similar to how zonal land use and density variables are used in TAZ-based models, with the advantage that the buffer is defined in exactly the same way for each micro-zone. The buffer variables that DaySim uses include:

- The number of households in the buffer;
- Employment (number of jobs) in the buffer in various employment sectors;
- Enrollment in schools in the buffer, segmented by grade schools and colleges;
- The number of spaces and average price of paid off-street parking in the buffer;
- The number of transit stops within the buffer (segmented by sub-mode, if relevant);
- The number of street intersections in the buffer, segmented by 1-node (dead-end or cul-de-sac), 3-node (T-junction), and 4+node intersections; and

In addition, DaySim also uses the distance from the micro-zone centroid to the nearest transit stop (by transit sub-mode, if relevant), as well as the distance to the nearest open space area while simulating models.

DaySim Buffering Tool

A tool, Buffer Tool, to perform the buffer calculations is implemented in the DaySim component of the model system. This tool calculates all the buffer and transit access variables that DaySim needs, using the following inputs:

- Base micro-zone file
- Street intersections file

- Transit stops file
- Network nodes file (for all streets network based short trip distances)
- Node-to-node shortest path distance file (for all streets network based short trip distances)

Note that it is essential that the buffer measures used in application are consistent with those used for the original model estimation. Thus, when preparing new buffer measures, users should not modify the settings in the buffering tool control file.

Buffer Calculations

As mentioned earlier, buffer variables for a micro-zone are calculated by summing land use variables of all micro-zones within a certain buffer distance of the particular micro-zone. In the past, buffer calculations have used a "flat" buffer, using a certain radius, e.g. ¼ mile, and counting everything within that radius and nothing outside the radius. That approach is simple, but has the disadvantages that (a) it weights all opportunities within the buffer the same, whereas in reality the land use that is very close by will tend to have more influence on behavior than the land use at the edge of the buffer, and (b) there can be "cliff effects" if a large development is located near the edge of the buffer. In the latter case, the measures become sensitive to the somewhat arbitrary specification of the buffer size, and to the rules used to deal with micro-zones that straddle the buffer boundary. This tends to add random "noise" to the buffer measures.

The buffering tool can be set to use flat buffering, or a distance-decay buffer, in which each buffered item is weighted according to the distance from the origin micro-zone centroid. There are two options provided for the weighting function: a logistic function and a negative exponential function. The logistic form is recommended because its shape is more representative of typical behavioral models that use logistic functions. The Tulare ABM uses a distance-decay buffering.

The buffering program simultaneously calculates all the buffer variables for two different buffer sizes. The reason for this is that the DaySim choice models use smaller buffers for some variables (e.g. those that represent attractiveness of walk trips), and larger buffers for some other variables (e.g. those that represent attractiveness of bike trips, or more general neighborhood effects).

For distance decay buffering, the user specifies three parameters for each buffer: (1) the distance parameter, (2) the offset parameter, and (3) the slope parameter (the latter two are used only for logistic buffering). The parameters for the logistic curves used for DaySim model estimation and calibration are listed in Table 2. It is necessary that these same parameters be used for model application. The distance decay weights for both buffers are shown in Figure 4.

TABLE 2. LOGISTIC CURVES PARAMETERS

PARAMETER	BUFFER 1	BUFFER 2
Inflection	BDIST1 = 660 (ft)	BDIST2 = 1320 (ft)
Offset	BOFFS1 = 2640 (ft)	BOFFS2 = 2640 (ft)
Slope	DECAY1 = 0.76	DECAY2 = 0.76

The equation is:

$$Weight = \min(1, \frac{1 + e^{DECAY - 0.5 + \frac{BOFFS}{5280}}}{1 + e^{DECAY(\frac{Distance}{BDIST} - 0.5 - \frac{BOFFS}{5280})}})$$

Distance is the distance, in feet, from the origin micro-zone to any other micro-zone whose calculation is explained in the next paragraph.

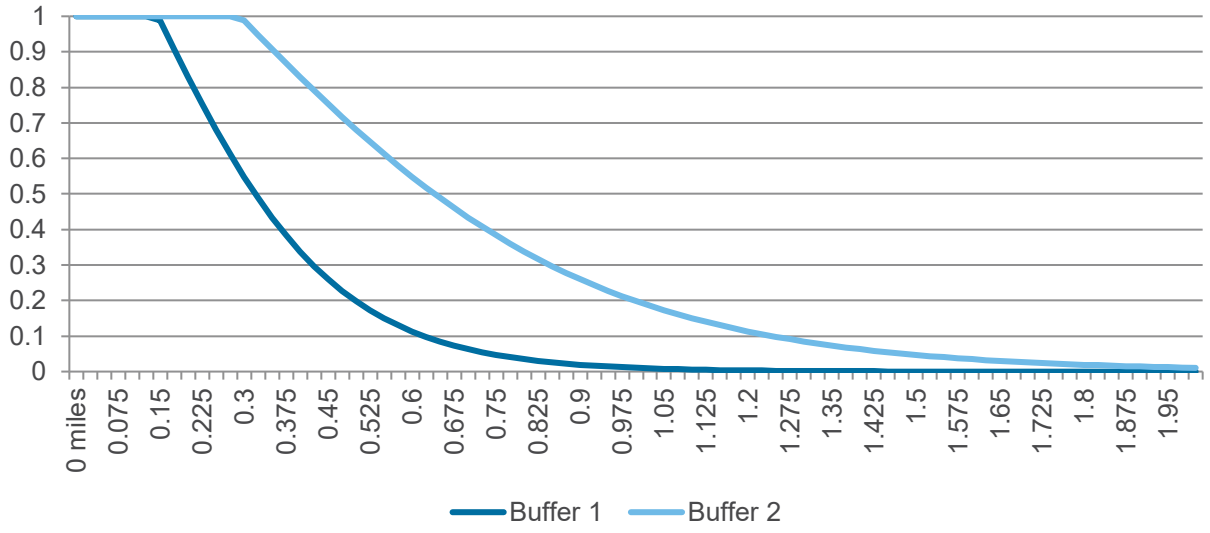


FIGURE 4: BUFFER1 AND BUFFER2 DISTANCE DECAY WEIGHTS

The buffering program also gives the user three options as to how distances are calculated within the buffering program:

1. Use crow-fly distance between the XY coordinates
2. Use interpolation with a “circuity surface” around each micro-zone.
3. Use shortest path distance between the nearest all street network nodes.

Note that in option 1, because the buffer distance is calculated using XY coordinates from centroid to centroid for micro-zones, buffering may not be very accurate for micro-zones that are very large compared to the size of the buffer.

Option 3, used in Tulare ABM, provides more accurate distances that take into account obstacles and directness in the street network and is preferable if the required data exists. The following steps are involved in buffering using distance decay weights and all streets network distances:

1. The buffering tool first associates each micro-zone with the nearest network node and creates a micro-zone-node correspondence.
2. Multiple micro-zones may be associated with a single node and so the base micro-zone file is reduced to node level by aggregating data from all micro-zones that are associated with the same node.
3. Other items such as open spaces/parks and transit stops are also associated with the closest network nodes.
4. At this point, buffering calculations are all done at the node level since node-to-node all street network distance are available. For node pairs that are not within 3 miles of each other, Euclidean distance calculated from XY coordinates is used. Buffer variables for a particular node are calculated by obtaining the weighted sum of land-use variables of all the nodes with the chosen buffer distance. The calculation of distance weights has been described earlier.
5. Once the buffer calculations at the node level are complete, the buffer variables are transferred to micro-zones using the micro-zone-node correspondence created in step 1.

It should also be noted that in case of option 3, during the buffering process, two binary files that have information about node-to-node network shortest path distances are output so the DaySim can use them for simulation of short trips.

The following steps are involved in buffering using distance decay weights and XY/Euclidean distance:

1. Calculate distance weights using the logistic decay equation described earlier.
2. Calculate buffer variables for each micro-zone by counting land-use attributes of the surrounding micro-zones by getting their centroid distances (Euclidean) from that of the micro-zone under consideration and weighting by the corresponding distance weights.

Population Sampler

A common problem in the application of activity-based models to small urban areas is the effect of Monte Carlo simulation variance on the interpretation of results. The simulation error is

inversely proportional to the number of decision-makers or agents in the model. For smaller regions like Tulare CAG and for cases where the policy of interest is relatively small scale (e.g., a capacity enhancement on a low-volume facility), the simulation error can exceed the sensitivity of the model, confounding the analysis of benefits. To eliminate this problem, the project applied a tool "Population Sampler" that was originally developed for the Bellevue-Kirkland-Redmond region DaySim model to enable oversampling households by geography. Population Sampler reduces the number of feedback iterations required for full model convergence by replicating households whose results are then averaged prior to assignment. The tool is implemented in a Python script and requires specifying the sample rates by zone along with a distribution of households by income and size to ensure that the sampled households are representative of the actual population. For Tulare ABM, the population sampler oversamples households by a factor of 3.0.

DaySim Inputs

This section provides a brief description of inputs required in DaySim model[7].

Micro-zones

The Tulare activity-based model system uses micro-zones as the fundamental spatial unit for generating travel demand. Use of micro-zones improves the sensitivity of the model system to land use, fine-grained urban form and accessibility attributes. However, use of these detailed measures necessitates the preparation of more detailed and larger model input datasets. The micro-zone data input file contains fields that describe the quantities of households, school enrollment by type and employment by industrial sector within quarter mile and half mile buffers. Note that these buffers are based on "all streets" based network accessibilities and employ decay functions that weight closer opportunities more than distant opportunities. In addition, the micro-zone file contains information about urban form and the transportation system on and close to the micro-zone, such as the number of dead-end streets, the proximity of the micro-zone to transit stops, and the price and supply of nearby parking.

Tulare CAG provided this file with all the necessary attributes as described in Appendix C

Synthetic Population

The synthetic population is comprised of lists of households and persons that are based on observed or forecasted distributions of socioeconomic attributes and are typically created by sampling detailed Census microdata. These lists function as the basis for all subsequent choice-making simulated in the activity-based model. This project implemented a population

[7] DaySim is an open source activity-based model stored on a GitHub repository: https://github.com/RSGInc/DaySim. The repository has a wiki page with extensive documentation describing the model.

synthesizer called “PopulationSim” to generate synthetic population that are input to the Tulare ABM. Details of the procedures and instructions to run the software for the base year (2022) are provided in Appendix B.

Worker IXXI Fractions

Although the modeling area is defined in such a way as to capture as much “internal” travel by regional residents as possible (that is, travel with both origins and destinations with the modeling area), a certain portion of observed regional travel involves either regional residents travelling to destinations outside the modeling area or people who are not regional residents travelling to destinations within the modeling area. As in a traditional trip-based travel demand model system, these travel markets are typically incorporated into the model through the use of internal-external trip tables, which may be either fixed or dynamic.

A distinguishing feature of the DaySim activity-based model system is that, due to the spatial and behavioral detail embedded in the model, it is sensitive to how this internal-external travel affects the choices made by regional residents. A particular focus of this detail is on ensuring that the right numbers of workers are “out-commuting” to employment locations outside the modeling area, and that the right number of regional jobs are being consumed by non-residents “in-commuting” to the region. At present, this is accomplished by using a file (worker IXXI fractions) that contains TAZ-based shares of workers who are in-commuting and out-commuting, which is provided as an external input to the DaySim model system. The shares either can be held fixed or may be updated by deriving updates shares from the trip-based model outputs.

TAZ Indexes

The TAZ index file enables users to flexibly define non-continuous zones numbering systems, and to identify the availability of external and other zones as destination choices, without impacting DaySim performance.

PNR Nodes

The PNR file provides park and ride locations with corresponding capacity and parking cost. The file is prepared by extracting PNR locations from the highway network (node file). For each location, capacity is set to 100 and cost to 0.

Coefficients

A coefficient file provides a list of variables used in the model and corresponding coefficient values and t-statistics. Each Daysim model component is associated with a coefficient file. For the Tulare ABM, the model coefficients are calibrated to match 2022/2023 observed survey data for the Tulare region.

Roster

A key set of inputs to any travel demand forecasting model system are the files that contain the scenario, mode, user-class, and time period-specific measures of network impedance, often referred to as network "skims." The roster provides users with the ability to flexibly specify the skims that are associated with the different mode, time period and user classes used in the Tulare activity-based models system, without necessitating changes to the core DaySim model code. For example, a user may want to increase the number of time periods used in the model system to better reflect changes in network impedance by detailed time-of-day. In order to implement such an enhancement, a user would first revise the Cube-based network-processing scripts in order to generate the desired skims and would only need to revise the DaySim impedance roster to make DaySim sensitive to this additional detail.

This model update included automating the generation of the Roster file so that it does not need to be manually updated if changing the model year or running future scenarios.

Roster Combinations

The "Roster Combinations" file gives the possible mode/path type combinations used in DaySim. The file has columns that enumerate the 9 modes used in the current model system: walk, bike, single-occupancy vehicle (SOV), high-occupancy vehicles with 2 persons (HOV2), high-occupancy vehicles with 3 or more persons (HOV3), transit, park-and-ride, school-bus, other. The file also has 7 rows that enumerate the path types currently used (full-network, no-tolls, local-bus, light-rail, premium-bus, commuter rail, ferry). The path type "ferry" is used for BRT. The cells are TRUE for valid combinations within DaySim and FALSE otherwise.

Configuration

The configuration file is the main control file for DaySim. The configuration file informs DaySim about inputs/outputs and various model settings. These settings include input/output file names, types and locations, sample rates, DaySim path building weights, and allow users to specify which DaySim model components should be executed.

The ABM system dynamically generates a configuration file before a DaySim run. This process was updated to include parameters for the new DaySim features for teleworking and paid ride share modes. The model system uses two sets of DaySim configuration files: one for running only work and school location choice models and the second for running all choice models in DaySim. In the first feedback loop when shadow pricing is enabled, DaySim is run for four iterations. The first three iterations run only work and school location choice models and, in the end, generate stabilized shadow prices. These shadow prices are seed to the fourth DaySim iteration that runs all choice models to produce resident travel in the region. Subsequent iterations (and the first iteration when shadow pricing is disabled) run DaySim only once, using the stable shadow price files that were previously generated.

Shadow Prices

The “shadow_prices.txt” is used to constrain employment and enrollment in a parcel by its actual capacity. Similarly, “park_and_ride_shadow_prices.txt” is used to constrain parking at park and ride locations’ capacity. The shadow prices are intermediate outputs of a DaySim run. They are optional as inputs. However, it is advisable to have starting shadow prices in order to get stable results. Also, having fixed starting shadow prices is helpful in replicating an ABM run with the same inputs. In this model update, the DaySim module was updated to use the stable shadow prices generated in the shadow pricing step in each iteration of the model.

Truck Model

The truck model is retained from the VMIP2 model system. The truck model produces a trip table containing truck demand in three truck classes: small (TS), medium (TM), and heavy (TH).

Auxiliary Demand

The auxiliary demand consists of demand external to the model region. Specifically, it consists of external auto demand and external truck demand. The external demand for internal-external (I-E), external-internal (E-I), and external-external (E-E) trips by time-period (auto) and daily (truck) are provided as input trip tables to the model system. The trip tables are created from the Streetlight data, as described in Section 2.2 Input Preparation.

2.5 ASSIGNMENT PREPARATION

Before performing network assignments, the travel demand in the model system is prepared in formats required in the assignments. Specifically, the resident travel from DaySim is converted into vehicle trips and segmented into highway and transit travel in respective assignment classes. Other components of the model demand, internal truck trips and auxiliary demand, are added with the resident travel demand to create time-period specific Cube matrices.

The resident model, DaySim, generates a list of person trips for the residents and outputs them into a trip file in tab separated values format (_trip.tsv). The person trips are segmented into four time periods (see Table 3) using a trip time calculated based on trip’s position in the corresponding tour chain. The DaySim trip file contains this information in variable “HALF”, which takes value as 1 or 2, indicating if a trip is in first half of the tour or in the second half respectively. If a trip is present in the first half (leg) of the tour (HALF=1), then the trip time is set to trip’s arrival time. Otherwise (HALF=2), trip’s departure time is considered as the trip time.

TABLE 3. HIGHWAY ASSIGNMENT TIME PERIODS IN THE TULARE ABM

TIME PERIOD	DURATION
AM (a.m.)	6 am – 9 am
MD (mid-day)	9 am – 4 pm
PM (p.m.)	4 pm – 7 pm
EV (evening)	7 pm – 6 am

Highway

Person auto trips generated by the resident model (DaySim) are converted into vehicle trips using vehicle occupancy factors for high occupancy auto modes (SR2 and SR3). Table 4 presents the occupancy factors used to convert DaySim person trips to vehicle trips.

TABLE 4. OCCUPANCY FACTORS TO CONVERT PERSON TRIPS TO VEHICLE TRIPS

MODE	OCCUPANCY
Drive-Alone (DA)	1
Share-Ride 2 (SR2)	2
Shared-Ride 3+ (SR3)	3.5

The DaySim vehicle demand is combined with truck demand and the auxiliary demand to construct four time-of-day demand tables for highway assignment. The demand tables are generated in Cube matrix format and contain demand in 13 assignment classes – 9 auto classes (3 auto classes x 3 value of time), one external class (EE), and three truck classes (small, medium, and heavy). Three auto classes are DA, SR2, and SR3.

Transit

DaySim produces transit trips across all times of day in which transit service is provided. The DaySim trip file (_trip.tsv) reports all transit trips as transit and does not classify them by access mode (walk or drive). However, another DaySim output, tour file (_tour.tsv), details tours made by a person and reports transit tours by access mode as well. DaySim calculates trips from the tours made by a person. Therefore, if the tour corresponding to a trip is reported as drive-to-transit then the trip is a drive-to-transit too. To get the tour information to the trips, tour and trip files are joined by a common identifier (tourid). Presently in the Tulare model, no KNR sub-mode is included in DaySim, thus, all drive-to-transit trips are reported as PNR trips.

The transit trips are aggregated in OD format into two Cube matrices by transit mode (Bus and Rail). Each matrix contains demand in four assignment classes by time-period (peak and off-peak) and access mode (walk and drive). Note that the model base scenario (2022) has only bus mode in the transit system, thus all transit demand is put into the bus mode specific demand matrix. However, the rail mode specific matrix is setup to use as placeholder for future BRT line in the Tulare region.

Non-Motorized

DaySim also produces lists of trips made for non-motorized modes. Since, presently, the model system does not non-motorized assignment, these trips are not processed.

2.6 NETWORK ASSIGNMENT

The model system assigns three sets of travel demand to the model network: highway, transit, and non-motorized. Note that highway and transit assignment procedures are retained from the VMIP2 model system.

Highway

The highway assignment is a multi-user class equilibrium assignment that builds paths on a generalized cost function with the cost function differentiated by user class. The generalized cost is a function of travel time and cost (toll) and is converted to time using value of time.

The assignment employs a user equilibrium method that is an iterative process to achieve a convergent solution where no travelers on the roadway network can improve travel-times by shifting routes. Throughout each of these iterations, Cube computes network-link flows, which incorporate link-capacity restraint effects and flow-dependent travel-times.

Similar to the MIP2 model, the ABM system runs highway assignment for two time periods (AM and MD) in every feedback loop and for four time periods (Table 3) in the final assignment step. Note that the truck trips are assigned as PCEs by applying factors of 1.5 and 2.0 for medium and heavy trucks respectively. As convergence criteria, the assignments use a gap value of 0.00001 and maximum iterations of 50 for the peak and 20 for the off-peak periods.

Each converged assignment run produces a loaded network (*.NET) that contains assigned flows on the links. The four time-period specific loaded networks are then post-processed and combined into one loaded network containing flows for all four time periods. The post process also exports the flow data into a DBF file.

Transit

The model system uses Cube-based Pathfinder assignment to assign transit demand to the model transit network. The transit demand is assigned by time period (peak and off-peak), sub-

mode (bus and rail), and access mode (walk and drive). Note that presently the rail mode is used as placeholder for future BRT line.

Each transit assignment run produces a loaded network file (*.NET) and a DBF file that contains on and off at every transit stop in the model system. In all, the transit assignment step generates 8 files for each of the two outputs – two time periods (peak and off-peak), two sub-modes (bus and rail), and two access modes (walk and drive).

2.7 FEEDBACK

Feedback is used in two primary ways in the Tulare activity-based model system: between iterations within the highway assignment process, and between “system” iterations of the model system in which both the DaySim activity-based demand components and the Cube-based network supply components are executed. The feedback provides new (congested) travel times calculated based on the previous iteration results to the next iteration.

2.8 REPORTING

This project developed several stand-alone report processes to summarize outputs of DaySim and network assignments. These reports are useful to assess model performance and inform model calibration and validation, as well as other analyses.

DaySim

A DaySim run produces multiple outputs describing daily travel for the residents of the model region. The primary outputs are:

- _household.tsv
- _household_day.tsv
- _person.tsv
- _person_day.tsv
- _tour.tsv
- _trip.tsv

A separate set of R scripts summarize these outputs in various excel spreadsheets. The spreadsheets contain tables and charts summarizing different sub-models in DaySim. The spreadsheets are also utilized during calibration and validation of DaySim. These summaries are now automatically produced in the post-processing step and are available to view after the run completes in the scenario folder under “11_DaySim\daysim_summaries” folder.

Highway Assignment

The outputs of the highway assignment are time-period specific flow tables, which are, during a post-process, combined into one flow table. This flow table can be used to report various highway statistics.

This project created a highway validation spreadsheet that takes a combined highway assignment flow table[8] as input and automatically generates various highway statistics and compares them with the same statistics from observed data (traffic counts). The statistics include:

- Scatter plot of estimated flows and observed counts
- Gap by facility type (also by time of day)
- Gap by volume group
- Root mean squared error

Gap is calculated by taking the difference of estimated traffic volume with the observed count and then dividing it by the observed count.

The highway validation spreadsheet is now an automated part of the model setup and run during the post-processing step. The output can be found in the scenario folder as "10_Reporting\validation_summary.xlsx".

Transit Assignment

The transit assignment outputs transit boarding tables by period, transit sub-mode and mode access. A python script processes the assignment outputs and reports a summary of daily boardings by transit route. The summary is in a CSV format and is input to a transit validation spreadsheet that generates the following statistics:

- Scatter plot of estimated boardings and observed boardings
- Boarding rate
- Boardings by route

The transit validation spreadsheet is now an automated part of the model setup and run during the post-processing step. The output can be found in the scenario folder as "10_Reporting\validation_summary.xlsx".

[8] A python script generates a combined assignment flow table that is input to the highway validation spreadsheet.

3.0 CALIBRATION & VALIDATION

A calibration process adjusts the model to ensure that the model generates demand that reasonably follows the behavior depicted in observed data. The demand is defined as frequency of trips by origin and destination pair. The frequency of trips by OD pair can have different segmentation, e.g., trip mode, time of day, etc. The demand is then loaded on to the network (assignment) to determine the number of trips using each link in the network. For highways, this provides vehicle flows on every link (road) in the highway network and for transit, it generates number of people (boardings) using each transit service.

After a model is calibrated to produce demand that reasonably predicts observed travel behavior in the region, the model is validated to ensure network-level usage of the demand is reasonable. The model validation includes, on the highway side, comparing estimated traffic volume from the model with observed traffic counts, and on the transit side, comparing estimated transit boardings from the model with observed transit ridership.

The rest of this chapter presents model calibration and validation in separate sections. For each, first, the observed data are discussed followed by summaries from a final calibration and validated model run. In the end, a summary of the chapter presents key takeaways from the discussions.

For the 2022 model update, the observed Vehicle Miles Travelled (VMT) was the primary target that guided the calibration and validation process. As such, the calibration of the demand models focused on a few key submodels: the work from home model, the telecommute model, and the day pattern model.

3.1 CALIBRATION

In model calibration, alternative-specific constants (ASCs) and other model parameters are iteratively adjusted until the model generates demand that reasonably matches travel patterns in observed data. Typically, models are calibrated according to the following procedure: first, create comparisons between observed data and estimated model results. Next, calculate ASC adjustments by calculating the natural log of the ratio between the observed value and the estimated value for each alternative. Then, add the adjustments to the ASCs from the previous iteration. Next, run the model with the updated constants.

Data

Table 5 presents a list of datasets utilized to calibrate the Tulare ABM.

TABLE 5. MODEL CALIBRATION DATASETS

DATASET	YEAR	PURPOSE
Central California Travel Survey (CCTS)	2022-2023	All DaySim Models
LEHD Origin-Destination Employment Statistics (LODES)	2022	Worker Flows
5-Year Public Use Microdata Sample (PUMS)	2018-2022	Auto Ownership
1-Year American Community Survey (ACS)	2022	Auto Ownership

The 2022-2023 Central California Travel Survey (CCTS) is the primary dataset used during the calibration. Additional datasets are utilized to inform more accurate information for a particular type of travel. For example, a transit survey provides information about transit travel, thus, informing transit travel targets (tours and trips) in mode choice calibration. The 2022 LEHD Origin-Destination Employment Statistics (LODES) data provides flow of workers, which is used to validate estimated work location choice of Tulare residents. Census (5-year PUMS and 1-year ACS) informed targets for adjusting the auto ownership model in DaySim.

Central California Travel Survey (CCTS)

The 2022-2023 Central California Travel Survey (CCTS) was an effort led by Fresno COG in collaboration with the eight metropolitan planning organizations of the San Joaquin Valley region in California: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare. The purpose of the study was to gather information about the travel behavior of the residents of the San Joaquin Valley region.

The CCTS collected a rich set of demographic and travel behavior data from 7,406 households with complete responses across the eight-county region, amounting to 19,084 persons and representing 150,012 trips across 42,567 complete person-days. Of the 7,406 households, 796 households have a home location in the Tulare County, which are used to support the current model calibration efforts. The study implemented a number of data collection methods including a smartphone app, an online website, and a call-center.

The CCTS sampling plan was based on the 2015-2019 American Community Survey (ACS) 5-year estimates, and the survey was expanded (weighted) to the 2019 ACS Public Use Microdata Sample (PUMS) 1-year data to match the survey data to key household and person demographic variables. To support the 2022 base year model update, targeted refinements were applied to the CCTS survey weights of Tulare households to better represent 2022 travel conditions, and the survey data was reformatted to support the calibration efforts. The processing and refinement steps were applied in the following order:

- Tours were created based on the trip data in the survey. A tour is a sequence of trips in which the destination of the final trip is the same as the origin of the first trip (typically home). DaySim uses tours to ensure internal consistency of the travel choices (e.g., mode and time) among all trips on a tour.
- Survey variables were re-coded to match DaySim categories.
- Multi-day travel records were converted to single day records by creating a unique household and person identifier for each day to be compatible with DaySim.
- Person weights were scaled to match the distribution of person type (listed in Table 6) of the synthetic population produced by PopulationSim. Household weights were then adjusted to be the average of the scaled person weights of all household members, and day, trip, and tour weights were scaled by the same factor as the person weights. The scaling of the survey to match PopulationSim was necessary for several reasons. First, the survey was weighted against the 2019 ACS, but the survey was conducted from 2022-2023 and the model base year is 2022. The survey needed to be scaled up to represent the 2022 population totals. Second, if the population in the survey and synthetic population are very different for each type of person (e.g., full-time workers), it is more difficult to calibrate the model to survey targets, e.g. if the number of workers in the survey and the synthetic population are very different, it is not possible to calibrate to total work tours and work tours per worker simultaneously.

LEHD Origin-Destination Employment Statistics (LODES)

Commute travel is a very important and significant component of any regional travel. Therefore, in addition to verifying number of workers by work location, it is essential to validate workers by their origin (home) and destination (work) locations. LODES data was used to validate worker flows between home and work districts. The flows are compared at an aggregate level (10 districts) since observed data are likely to show higher variance/error at a more detailed geography.

Public Use Microdata Sample (PUMS) and American Community Survey (ACS)

PUMS and ACS data were used to develop calibration targets for auto ownership. The PUMS data is useful for developing cross-tabulation of auto ownership with household income and with potential drivers (persons aged 16 or over). 5-year PUMS data was used to have a larger sample size for the cross-tabulations. The 1-year ACS data is useful for getting the latest estimates for vehicle ownership. The 2018-2022 PUMS was used to match the seed data used to generate the synthetic population.

DaySim Calibration Summaries

An R-utility summarizes DaySim outputs into statistics that are meaningful and easy to understand. The summaries are prepared by key model components and include work and school location, auto ownership, day pattern, tour/trip destination choice, mode choice, and time of day. The summaries from the final calibrated model are presented in the following sections. Unless otherwise specified, both the CCTS and ABM data include only the study area, i.e., Tulare County.

Synthetic Population

Table 6 and compare synthetic population in the ABM with observed data (CCTS) in Tulare County. The population includes households (in the “HH” columns) population only as Group Quarters (non-institutional) are excluded. The group quarter population was excluded from the CCTS sampling frame. Since, it is a very small population in Tulare County, they are excluded from the ABM as well. The survey was weighted to 2019 Census therefore shows some differences in population, especially for nonworkers and student 5-15 years age.

TABLE 6. POPULATION BY PERSON TYPE

PERSON TYPE	CCTS HH	ABM HH	CCTS HH	ABM HH
Full Time Worker	139,655	148,720	31%	31%
Part Time Worker	24,554	23,942	5%	5%
Retired	41,626	51,151	9%	11%
Non-Worker	56,811	87,601	13%	18%
University Student	13,530	18,474	3%	4%
Student Age 16+	19,555	18,002	4%	4%
Child Age 5-15	115,114	93,782	26%	20%
Child Age 0-4	37,898	35,230	8%	7%
Total	**448,742**	**476,902**	**100%**	**100%**

Work From Home and Telecommute

Workers are classified into three types based on whether they work at their home location: work-from-home workers, telecommute workers, and all other workers. The work location model determines where a worker works and classifies a worker as a work-from-home worker if the work parcel (usual work location) is the same as the home parcel. The telecommute (work at home) model predicts whether a non-work-from-home worker works at home for 3 hours or more on the simulation day and, if so, classifies the worker as a telecommute worker. The rest of the workers are considered out-of-home workers. The work from home and telecommute calibration consists of two main steps. The first step calibrates the models that predicts if a worker works from home or if a worker telecommutes using the work location model and the telecommute model as described above. The second step calibrates the Day Pattern model for each worker type as described later in this section. As presented in Table 7, the number of work-from-home and telecommute workers in the ABM match well with the respective CCTS workers.

TABLE 7: NUMBER OF WORKERS BY WORK FROM HOME CLASSIFICATIONS

WORKER TYPE	CCTS %	ABM %
Work from home workers	1.91%	1.79%
Telecommute workers	9.41%	10.40%
All other workers	88.68%	87.81%
All Workers	100.0%	100.0%

Home to Work Distance

As presented in Table 8, the ABM has an average home-to-work distance of 7.6 miles compared to 7.9 miles from the CCTS. Note that the home-to-work distances are only for the workers of the Tulare County that have work location within the Tulare County.

TABLE 8. AVERAGE HOME TO WORK DISTANCE (MILES) BY WORKER STATUS

WORKER TYPE	CCTS	ABM
Full Time	8.2	7.6
Part Time	8.1	7.0
Other	5.4	8.3
All Workers	**7.9**	**7.6**

Figure 5 compares distributions of home-to-work distances of workers in the CCTS and the model. The X-axis is distance in miles and the Y-axis is share (%) of workers. Due to relatively lower samples, the observed dataset shows a lumpy distribution. The ABM distribution is smoother and generally follows the observed distributions from the CCTS.

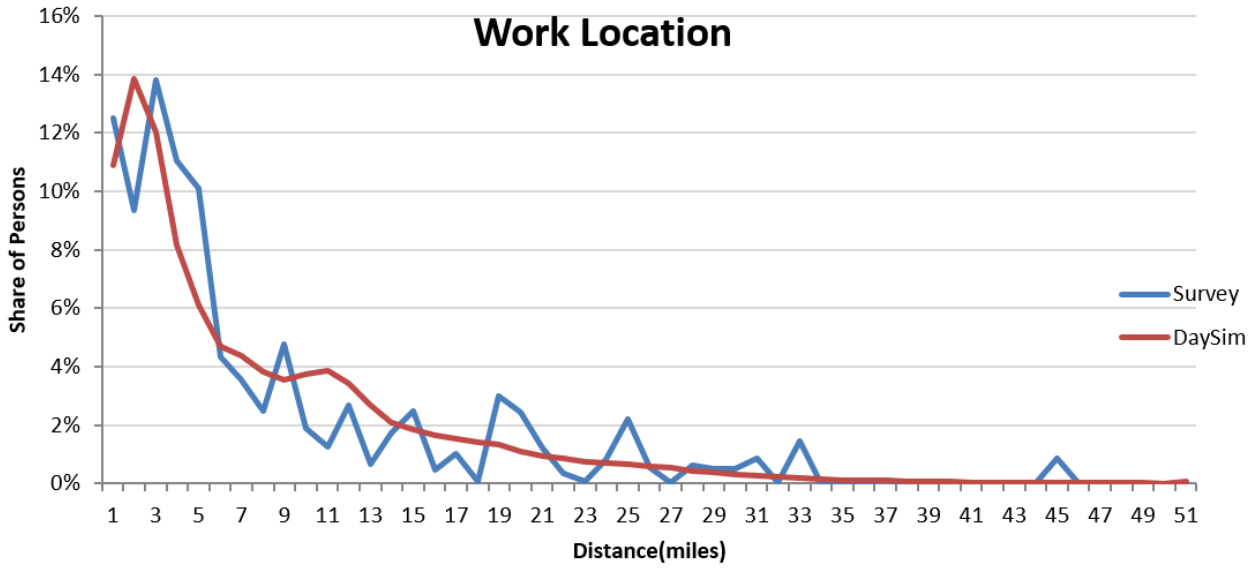


FIGURE 5. DISTRIBUTION OF HOME TO WORK DISTANCES

Home to School Distance

The average distance travelled by students to go from home to school is 5.9 miles from the ABM. The CCTS data suggest a lower average distance (4.5 miles), as shown in Table 9.

TABLE 9. AVERAGE HOME TO SCHOOL DISTANCE (MILES) BY STUDENT TYPES

STUDENT TYPE	CCTS	ABM
Kids 5 to 15	4.4	5.8
Student 16+	5.6	3.3
University Student	3.84	9.1
Total	**4.5**	**5.9**

Figure 6 presents a comparison of observed and estimated frequency distribution of trip lengths between home and school. Because of limited sample size, the survey distribution is not very smooth.

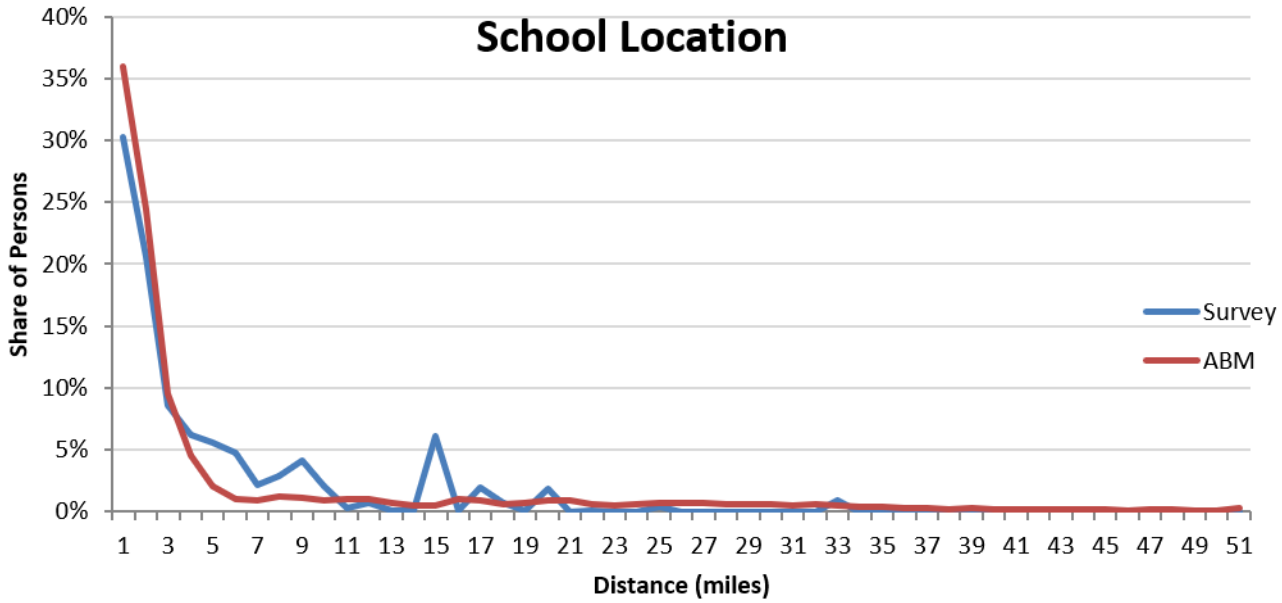


FIGURE 6: DISTRIBUTION OF HOME TO SCHOOL DISTANCE

Auto Ownership

The auto ownership model predicts the number of vehicles owned by a household. The auto ownership model is structured as a multinomial logit (MNL) with five available alternatives: 0, 1, 2, 3, and 4+. Key variables are the numbers of working adults, non-working adults, students of driving age, children below driving age and income.

The observed distributions of households are developed by first generating distribution by number of drivers and autos owned using the 5-year 2018-2022 PUMS and then scaling it to match households by autos owned at the county level from the 1-year 2022 ACS data. Figure 7 shows that the model matches the observed data reasonably well and did not require calibration.

Detailed summaries of auto-ownership by number of drivers in the household is available in Appendix A.

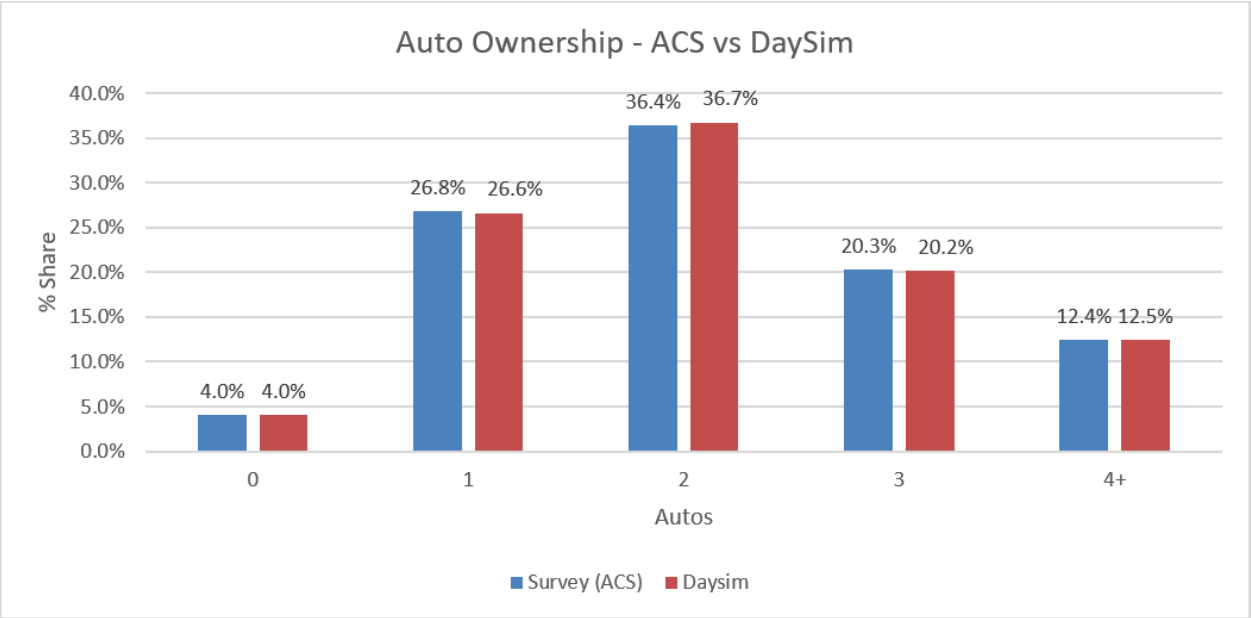


FIGURE 7. AUTO OWNERSHIP DISTRIBUTION – REGIONAL

Day Pattern

Day pattern summaries compare observed and estimated resident travel behavior, including tours and trips, by purpose and person type. Table 10 presents the distribution of tours by purpose in the CCTS and the model for Tulare County. Because the primary objective of calibration and validation was to align modeled VMT with observed HPMS VMT, the calibration summary results may show weaker agreement for these measures.

TABLE 10: TOURS BY PURPOSE

TOUR PURPOSE	CCTS	ABM	DIFF (ABM-CCTS)
Work	21%	20%	-1%
School	18%	22%	3%
Escort	23%	22%	-1%
Personal Business	7%	7%	0%
Shop	13%	13%	0%
Meal	5%	5%	0%
Social/Recreation	10%	9%	0%
Work-based	2%	2%	0%
Total	**100%**	**100%**	**0.0%**

A tour rate is calculated as number of tours divided by number of persons. Table 11 compares tour rates by tour purpose. The CCTS indicates on average 1.49 tours per person in the Tulare County. The work tour rate is under-estimated because the model was calibrated by tour frequency distribution (% of workers with 0, 1, 2+ work tours), but the weighted survey data includes adjustment factors that increases the tour weights (and therefore tour rates) without changing the tour frequency distribution and person weights. The survey was conducted as the region was coming out of the pandemic and there may have been a lot of pent-up travel demand for non-mandatory purposes. Since the primary goal is to calibrate the model to match the observed VMT, all non-work tour rates were not calibrated.

TABLE 11. TOUR RATE BY PURPOSE

TOUR PURPOSE	CCTS	ABM	DIFF (ABM-CCTS)
Work	0.31	0.23	-0.08
School	0.27	0.25	-0.02
Escort	0.34	0.26	-0.08
Personal Business	0.11	0.08	-0.03
Shop	0.20	0.15	-0.05
Meal	0.08	0.06	-0.02
Social/Recreation	0.14	0.11	-0.03
Work-based	0.04	0.03	-0.01
Total	**1.49**	**1.18**	**-0.31**

Table 12 compares observed and estimated tours by person type. Generally, the tours in the ABM match with the CCTS distribution by person type. Some differences are due to the differences observed by tour purpose.

TABLE 12. TOURS BY PERSON TYPE

PERSON TYPE	CCTS	ABM	DIFF (ABM-CCTS)
Full-Time Worker	37%	29%	-8%
Part-Time Worker	6%	5%	-1%
Retired	7%	12%	5%
Non-Worker	13%	15%	2%
University Student	3%	5%	2%
Student 16+	4%	5%	0%
Child Age 5-15	25%	24%	-1%
Child Age 0-5	6%	6%	0%
Total	**100%**	**100%**	**0%**

Table 13 presents a comparison of tour rates by person type. Full-time, part-time workers, and non-workers are under-estimated because the calibration efforts focused on targeted calibration to match VMT and work tour frequency, and the scheduling constraints did not allow for all sub-models to be calibrated. All other person types match reasonably well.

TABLE 13. TOUR RATE BY PERSON TYPE

PERSON TYPE	CCTS	ABM	DIFF (ABM-CCTS)
Full-Time Worker	1.76	1.09	-0.67
Part-Time Worker	1.72	1.21	-0.51
Retired	1.13	1.33	0.21
Non-Worker	1.52	0.96	-0.56
University Student	1.58	1.61	0.04
Student 16+	1.38	1.41	0.03
Child Age 5-15	1.43	1.42	-0.01
Child Age 0-5	0.98	0.91	-0.07
Total	**1.49**	**1.18**	**-0.31**

The distribution of ABM trips by trip purpose matches well with the CCTS data in Tulare County, as shown in Table 14.

TABLE 14. TRIPS BY PURPOSE

TRIP PURPOSE	CCTS	ABM	DIFF (ABM-CCTS)
Work	12%	11%	-1%
School	7%	9%	2%
Escort	16%	17%	1%
Personal Business	5%	5%	0%
Shop	11%	11%	1%
Meal	7%	7%	1%
Social/Recreation	6%	6%	0%
Home	35%	32%	-3%
Total	**100%**	**100%**	**0.0%**

As shown in Table 15, according to the CCTS data, a resident of the Tulare County makes 4.60 trips in a day on average. The ABM is under-estimating trip rates (3.55) compared to the survey data because the tour rates are under-estimated as explained above. Note that the model calibration was guided by validation of highway VMT so less attention was paid in matching these stats.

TABLE 15. TRIP RATE BY PURPOSE

TRIP PURPOSE	CCTS	ABM	DIFF (ABM-CCTS)
Work	0.55	0.39	-0.16
School	0.34	0.32	-0.02
Escort	0.75	0.60	-0.15
Personal Business	0.23	0.19	-0.05
Shop	0.49	0.40	-0.09
Meal	0.32	0.27	-0.06
Social/Recreation	0.29	0.23	-0.07
Home	1.62	1.15	-0.47
Total	**4.60**	**3.55**	**-1.05**

As indicated in Table 16, the CCTS data suggests, on average, residents of Tulare County make 3.08 trips on a tour. The ABM produces a similar estimate of 3.00 trips per tour for the residents of the Tulare region.

TABLE 16. TRIPS PER TOUR BY PURPOSE

DESTINATION PURPOSE	CCTS	ABM	DIFF (ABM-CCTS)
Work	1.78	1.69	-0.09
School	1.23	1.27	0.03
Escort	2.23	2.34	0.11
Personal Business	2.11	2.22	0.12
Shop	2.41	2.58	0.17
Meal	4.10	4.47	0.37
Social/Recreation	2.04	2.08	0.04
Total	**3.08**	**3.00**	**-0.08**

The distribution of model trips by person type categories is similar to the CCTS data, as summarized in Table 17.

TABLE 17. TRIPS BY PERSON TYPE

PERSON TYPE	CCTS	ABM	DIFF (ABM-CCTS)
Full-Time Worker	39%	32%	-6%
Part-Time Worker	7%	6%	-1%
Retired	8%	11%	3%
Non-Worker	15%	13%	-2%
University Student	3%	5%	2%
Student 16+	3%	4%	1%
Child Age 5-15	19%	24%	5%
Child Age 0-5	6%	5%	-1%
Total	**100%**	**100%**	**0.0%**

As presented in Table 18, similar to the tour rate by person type (see Table 13), the County trip rate in the ABM is lower (3.55 trips/person) than the CCTS trip rate (4.60 trips/person). Person type categories too show lower trip rates in the ABM.

TABLE 18. TRIP RATE BY PERSON TYPE

PERSON TYPE	CCTS	ABM	DIFF (ABM-CCTS)
Full-Time Worker	5.70	3.66	-2.04
Part-Time Worker	5.64	3.95	-1.69
Retired	4.14	3.60	-0.54
Non-Worker	5.28	2.47	-2.82
University Student	5.26	4.72	-0.54
Student 16+	3.32	3.95	0.63
Child Age 5-15	3.47	4.31	0.84
Child Age 0-5	3.14	2.52	-0.62
Total	**4.60**	**3.55**	**-1.05**

Other Tour Destination

A comparison of average tour lengths by purpose between the observed (CCTS) and the model data is presented in Table 19. A tour length is calculated as distance between tour origin and primary destination. The comparison includes only non-mandatory tour purposes, as mandatory tour purposes (work and school) have already been discussed before (see Table 8 and Table 9). Due to insufficient sample size for each purpose category, shopping and personal business purposes are aggregated into the Maintenance category, and meal and social/recreational purposes are aggregated into the Discretionary category.

Due to the small sample size in the observed datasets, the tour length frequency distributions are very lumpy which makes it difficult to know the real travel behavior for these tours.

TABLE 19. AVERAGE TOUR LENGTHS FOR OTHER TOUR PURPOSE

TOUR PURPOSE	CCTS	ABM
Maintenance	4.7	3.7
Discretionary	2.9	3.1
Escort	3.6	3.5
Work-based	8.1	3.5

Tour Mode Choice

Tour mode is an abstract concept, defined as the main mode of travel used to get from the origin to the primary destination and back. The following 9 tour modes are available in the ABM: drive alone, shared-ride 2, shared-ride 3+, bike, walk, drive-transit, walk-transit, school bus, and TNC. The tour mode is coded in the survey based on a set of rules that are dependent on the combination of trip modes used on the tour. The rules can be summarized as follows:

- Any tour with a transit trip is defined as a transit tour
    - Any transit tour with a PNR-transit trip is defined as a PNR-transit tour
    - Any transit tour with neither a PNR-transit trip or a KNR-transit trip is defined as a walk-transit tour
- Any tour with a bicycle trip is defined as a bicycle tour
- Any tour with an auto trip is defined as an auto tour
    - The highest occupancy mode of all auto trips on the tour is used to set the occupancy of the tour
- Remaining tours are walk tours

A similar set of rules is used in tour mode choice to constrain the availability of trip modes based on tour mode. These rules also influence the accessibilities used to choose the locations of intermediate stops on tours; for example, transit and walk accessibilities are used to choose stop locations on transit tours, rather than auto accessibilities.

After scaling the original CCTS targets to accommodate transit targets from the implied tours using 2022 transit boarding data, the CCTS targets are scaled one more time for tour mode calibration. Generally, a tour mode choice calibration aims to adjust the mode choice model so that the distribution of tours by mode is similar to observed share. Therefore, tour mode choice adjustments are made to alternative-specific constants to match observed mode shares. As transit tour targets are calculated directly from a transit on-board survey, the model needs to be calibrated to the same numbers. However, when calibrated using mode shares, the number of

transit tours based on the share of transit mode in the CCTS would result in a different number due to a different value of total tours in the ABM. For example, if a survey says that there are 100 transit tours among 10,000 total tours, then the transit share would be 1%. However, if the model is generating 12,000 total tours, then calibrating the model to the survey transit share of 1% will result in 120 transit tours. Since we want to calibrate the model to match the absolute number of transit tours inferred from the on-board survey, we adjust observed tours by mode, keeping the transit tours constant but scaling other modes to match total tours in the model by purpose and auto sufficiency.

Overall, the tour mode shares in the ABM match the CCTS shares fine (Figure 8). The comparison within the tour purpose categories are available in Appendix A. The CCTS observes an overall tour mode share of 29% by drive-alone (SOV) and 25% and 37% by shared-ride 2 and shared-ride 3, respectively compared to the ABM shares of 26%, 27% and 37%. The non-motorized tour modes (walk and bike) make up for 6.9% of the tours in the region according to the CCTS, compared to 7.9% in the ABM. The newly implemented TNC mode is a very small percent of total mode share. Only 0.6% of the tours in CCTS use some form of transit mode, where all of those transit tours use walk to transit.

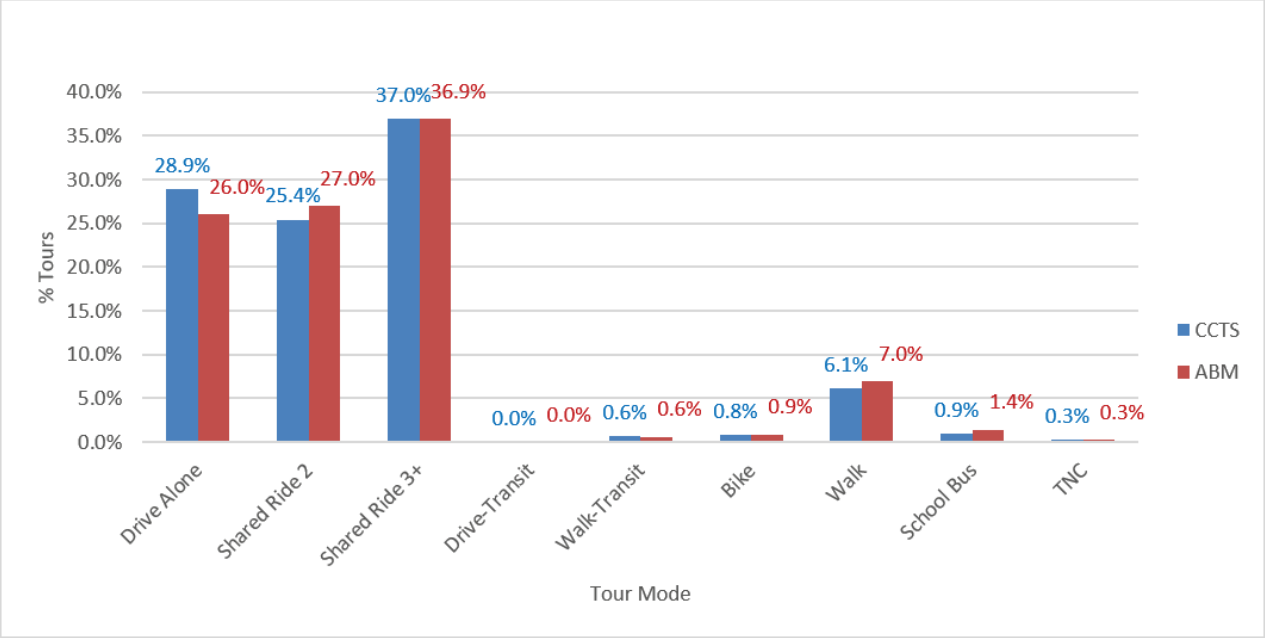


FIGURE 8. TOUR MODE SHARES (TOTAL)

Trip Destination

As presented in Table 20, the CCTS data suggest an average trip length of 4.76 miles regionwide (Tulare). The ABM is calibrated to lower trip lengths in order to improve model

validations. The purpose is based on the destination purpose of the trip, e.g., a trip form work to home is considered to have a “home” trip destination purpose.

TABLE 20. AVERAGE TRIP LENGTHS

TRIP PURPOSE	CCTS	ABM
Home	4.54	4.07
Work	8.74	5.47
School	3.74	4.18
Escort	3.58	2.99
Personal Business	3.56	4.03
Shop	2.82	2.89
Meal	4.45	2.99
Social/Recreational	2.53	2.57
Total	**4.40**	**3.74**

Tour Time-of-Day

Plots of tour arrival and departure times at primary destination are presented in Figure 9 through Figure 16. The ABM distributions generally match well with the CCTS distribution by purpose.

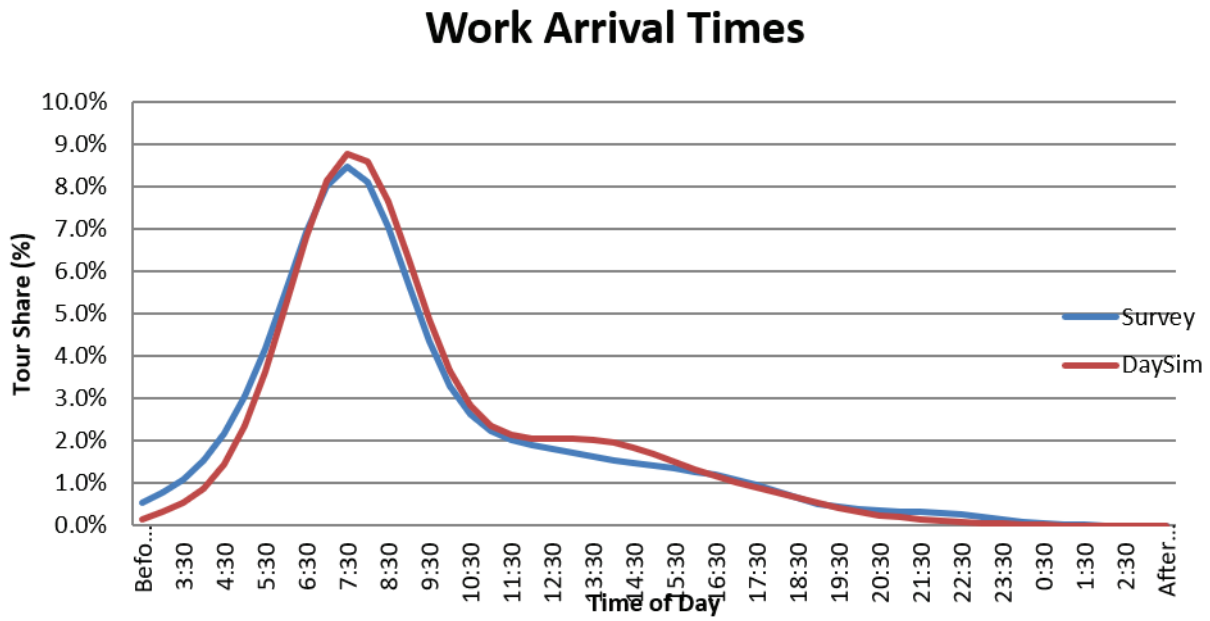


FIGURE 9: TIME OF DAY DISTRIBUTION OF WORK ARRIVAL TIMES

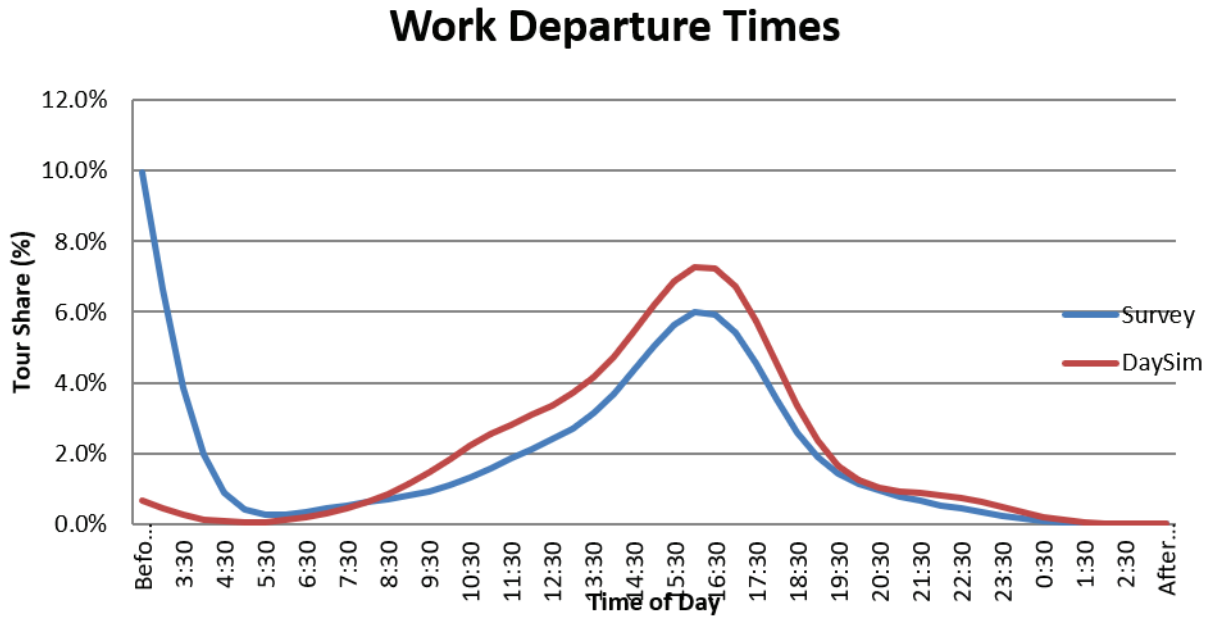


FIGURE 10: TIME OF DAY DISTRIBUTION OF WORK DEPARTURE TIMES

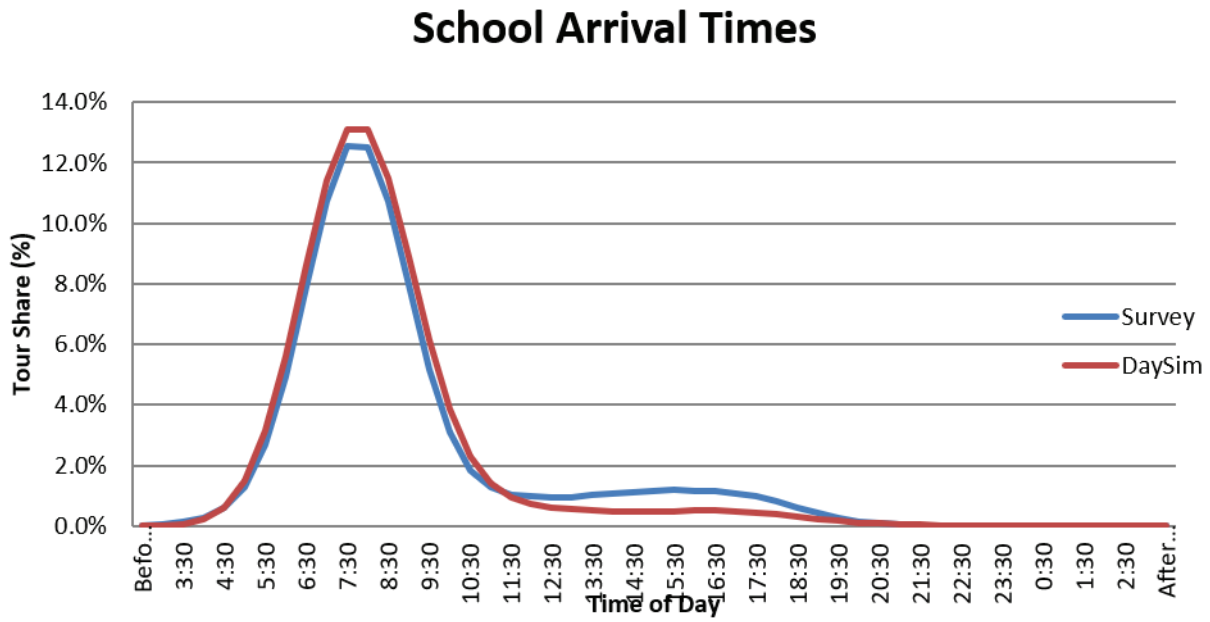


FIGURE 11: TIME OF DAY DISTRIBUTION OF SCHOOL ARRIVAL TIMES

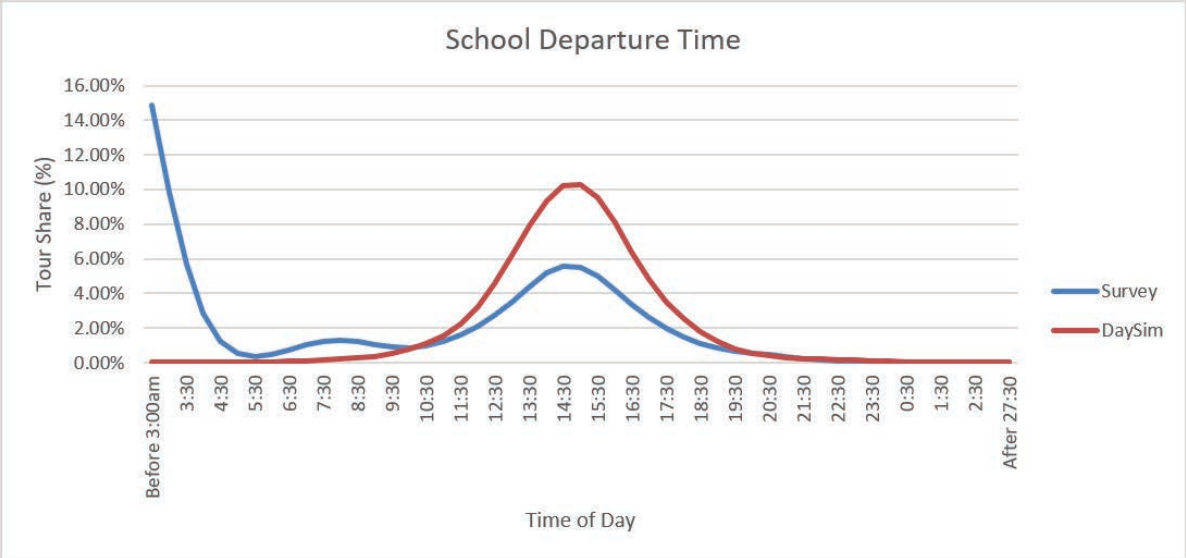


FIGURE 12: TIME OF DAY DISTRIBUTION OF SCHOOL DEPARTURE TIMES

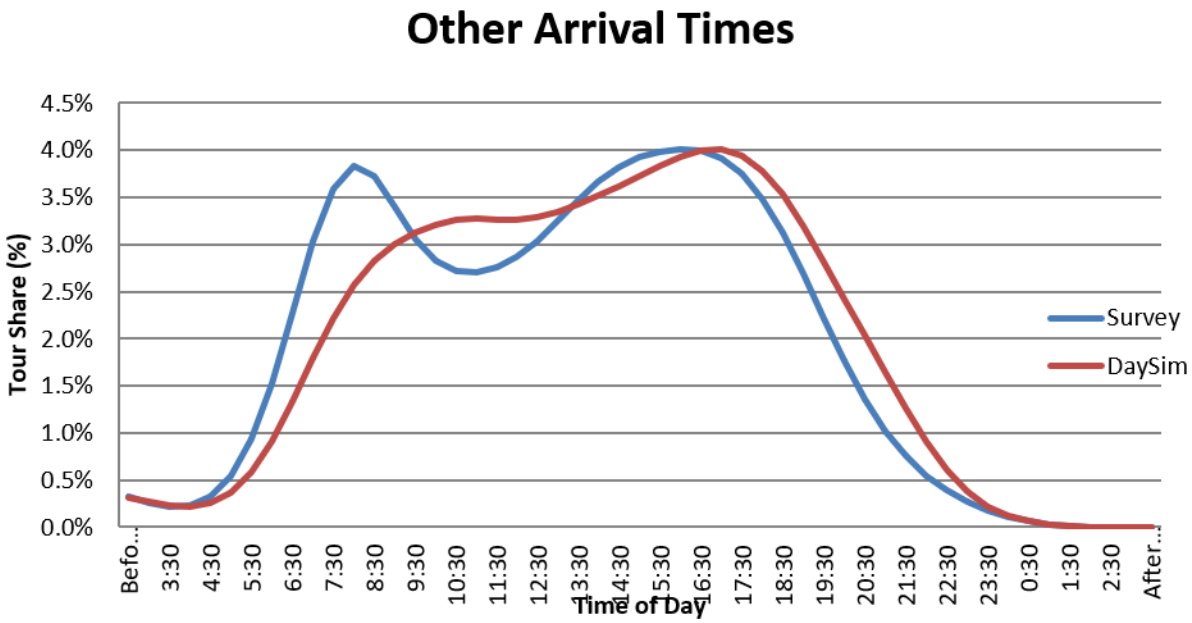


FIGURE 13: TIME OF DAY DISTRIBUTION OF OTHER PURPOSE ARRIVAL TIMES

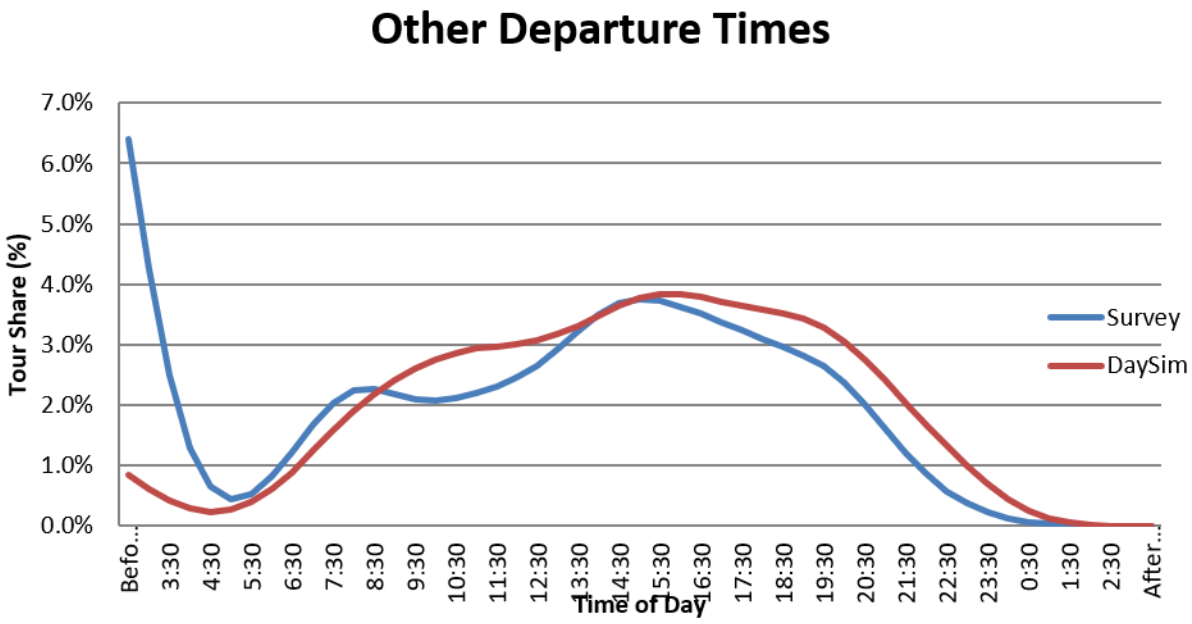


FIGURE 14: TIME OF DAY DISTRIBUTION OF OTHER PURPOSE DEPARTURE TIMES

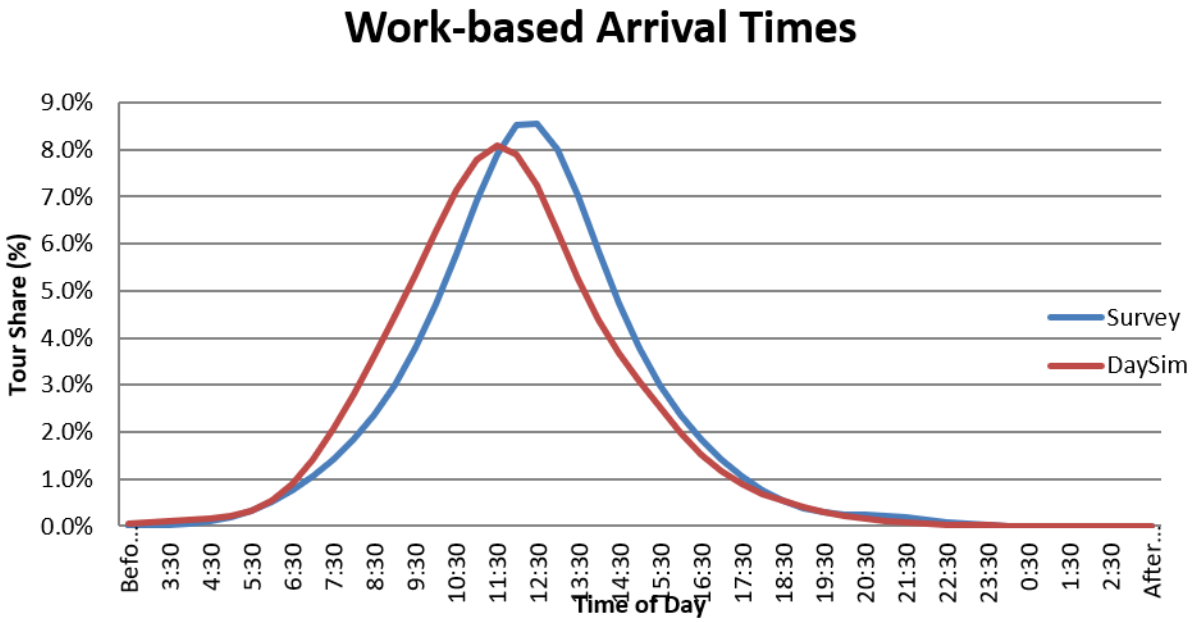


FIGURE 15: TIME OF DAY DISTRIBUTION OF WORK-BASED ARRIVAL TIMES

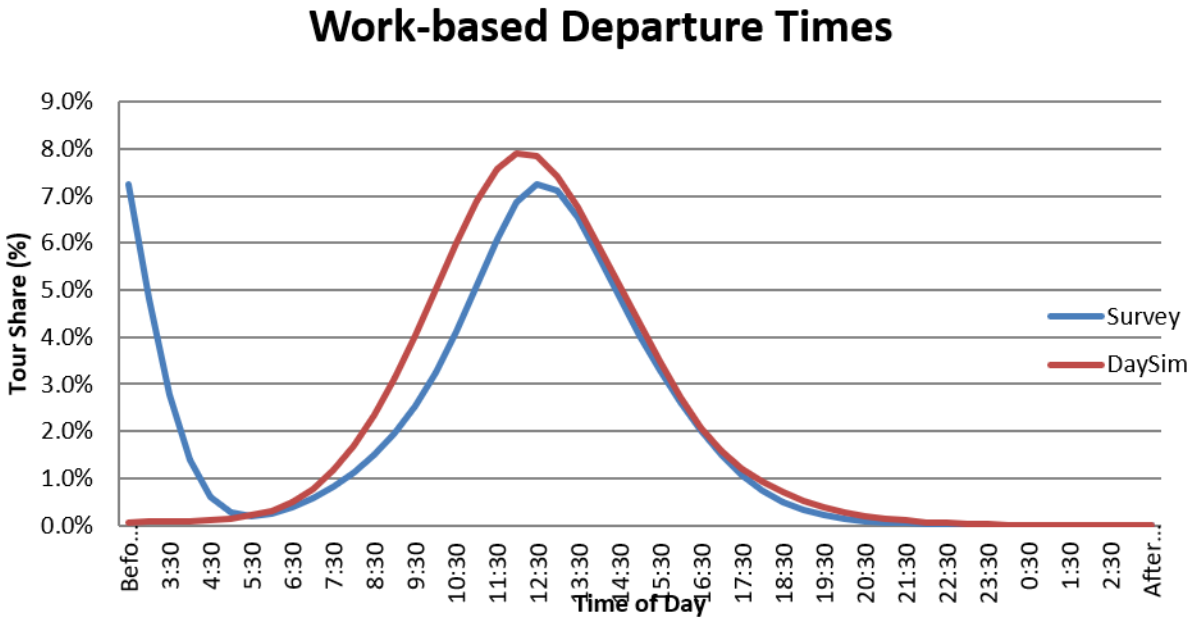


FIGURE 16: TIME OF DAY DISTRIBUTION OF WORK-BASED DEPARTURE TIMES

Trip Mode Choice

Trip mode targets are prepared from the CCTS data and updated with transit trip targets from the implied trips derived from the 2022 transit boarding data. Other mode targets are appropriately scaled to keep the total trips by purpose the same, similar to the process described above for creation of tour mode choice targets. This ensures that the absolute number of expanded transit trips from the transit on-board survey is matched in calibration.

The trip mode choice model can be thought of as a 'mode switching' model, in which the tour mode constrains which modes are available for trips on tours.

Overall, the ABM generates a trip mode distribution which is very similar to observed (Figure 17). The trip mode share by purpose distributions can be found in Appendix A. The CCTS data indicate that on an average weekday, 36.6% trips in the Tulare County are drive alone and 55.1% are shared-ride (SR2 and SR3), approximately 0.3% of Tulare County resident trips are made by transit, and 6.9% are made by a non-motorized mode (walk or bike).

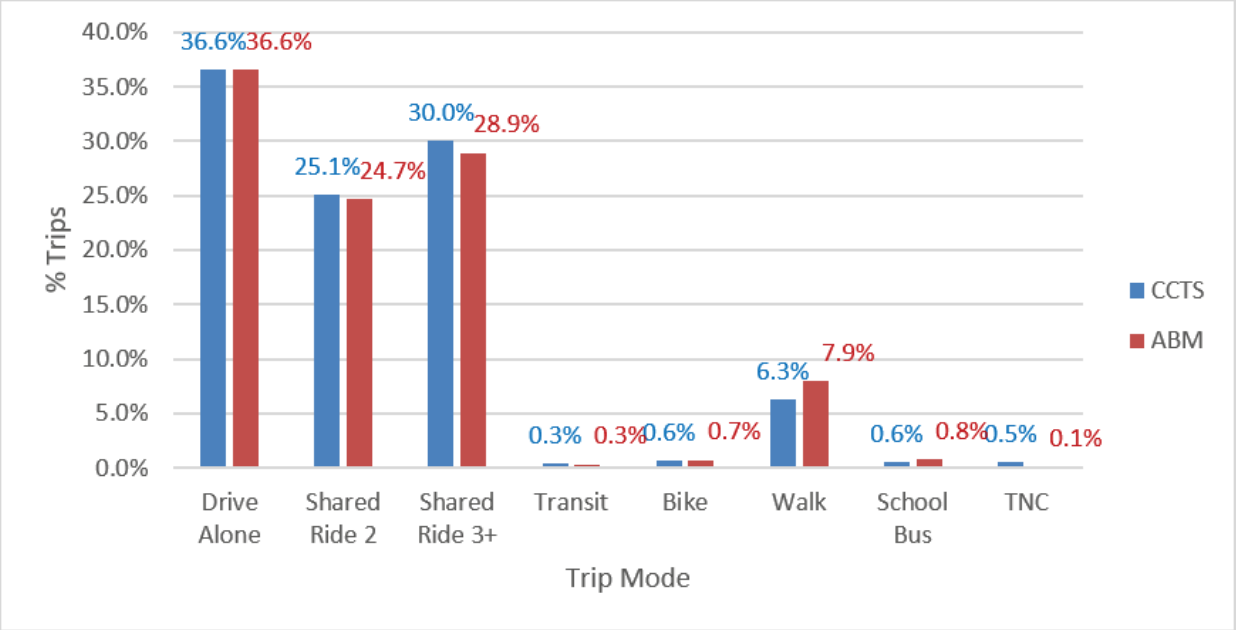


FIGURE 17: TRIP MODE SHARES (TOTAL)

3.2 MODEL VALIDATION

A model validation tests the model's predictive capabilities before it is used to produce forecasts. There are two types of model validation:

- The static validation compares model outputs against independent data that was not used to build the travel model. Model parameters are adjusted until the outputs from model assignment fall within an acceptable range of error to the observed data.
- The dynamic validation involves systematically varying the model inputs to assess the reasonableness of model responses, which is described later in Section 4.0.

In the assignment step, model demand (e.g. trips by time period, mode, and vehicle class\value-of-time) are loaded on to network. In highway assignment, the output includes vehicle flows on every link (road) in the highway network and for transit assignment, the output includes the number of boardings on each route. These are compared to observed traffic counts and observed transit ridership respectively. The two observed datasets (traffic counts and transit boardings) used in the present model validation are described in the next section, followed by highway, and transit.

Note that, if available, model performance is compared against recommended guidelines in the FHWA's Travel Model Validation and Reasonableness Checking Manual (Cambridge Systematics, Inc. 2010). However, the latest version of the manual does not recommend any particular threshold to assess reasonableness of model performance. This report does mention the previously recommended thresholds, however, does not strictly follow those in examining validation summaries. The thresholds are included just for informational purposes.

Validation Data

Table 21 presents a list of datasets utilized in the validation of the Tulare ABM.

TABLE 21. MODEL VALIDATION DATASETS

DATASET	YEAR	SOURCE	PURPOSE
Traffic Counts	2022	CalTrans and Tulare CAG	Highway Validation
Vehicle Miles Travelled (VMT)	2022	CalTrans Highway Performance Management System (HPMS)	Highway Validation
Transit Ridership	2022	Local transit agencies	Transit Validation

Highway

Observed traffic counts are used to validate link-level estimated daily traffic flow generated by a model, whereas the observed vehicle miles travelled (VMT) validates the regionwide network-usage as estimated by the model.

Traffic Counts (CalTrans and local)

The observed traffic counts are assembled from two sources: CalTrans, and Tulare CAG. The Caltrans traffic census program[9] provides traffic counts on highways (interstates and state routes) in the State of California. These Caltrans traffic counts in year 2022 are downloaded for the Tulare region and in a shapefile format. The count locations (points) in the shapefile are then joined to the model roadway network using a combination of automated and manual review process. The automated process first matched the points in the shapefile to the network links and the manual process reviewed the match and corrected the joins that appeared incorrect. Also, an appropriate count value (Before AADT or After AADT) is assigned to the joined link in the model network.

Tulare CAG provided processed and geocoded traffic counts for freeways from Caltrans and for the other facility types (arterial, collector, local etc.) from the County. The traffic counts already had the corresponding model network link for a count. However, during the model validation, several issues related to suspect wrong link match were discovered, therefore, some traffic counts and network attributes such as speed, lane, and facility type were manually reviewed for their correctness. In all, a total of 226 traffic count locations were used in the model validation.

VMT

The 2022 observed VMT is obtained from Caltrans Highway Performance Monitoring System (HPMS)[10]. Caltrans provide daily vehicle miles of travel for Tulare CAG.

Transit

Transit ridership (boardings) by route are compared to the estimated boardings in the model by transit line for transit validation.

Transit Boardings

The transit boardings are assembled from local transit agencies.

Highway Validation

The estimated traffic flows from the model and the observed traffic counts are compared in various dimensions, including:

- Region
- Facility Type

[9] http://www.dot.ca.gov/trafficops/census/
[10] Table 9 in https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/hpms/hpms-2022-prd-v2-a11y.pdf

- Volume Group
- Key Corridors

Region

The observed traffic count database used in this model validation effort encompasses 226 links on the highway network. The total traffic across these links amounts to 3.9 million vehicles as shown in Table 22. On the same links, the ABM over-estimates the traffic volume by ~4.6% (4.1 million vehicles). According to the HPMS, on an average weekday in year 2022, the roadway travel in the Tulare region resulted in 11.02 million vehicle miles of travel (VMT). The estimated traffic flows from the ABM produce a daily regionwide VMT value of 10.50 million, within 4.7% of the observed estimate from the HPMS.

TABLE 22. HIGHWAY VALIDATION – REGION

MEASURE	OBSERVED	ABM	DIFF	% DIFF
Traffic Volume	3,884508	4,064,197	(179,689)	4.6%
VMT*	11,017,050	10,501,357	(515,693)	-4.7%

Note: Observed VMT is from the HPMS estimate of the total VMT in the Tulare region for year 2022

Regionally, the estimated traffic flows are compared with the observed traffic counts by creating a scatter plot, Figure 18. Points in the scatter plot are links where traffic counts are available. A point represents observed traffic count on the X-axis and the corresponding estimated flow on the Y-axis. The scatter plot includes several measures/guidelines assessing accuracy of the model flows with respect to the observed traffic counts.

First, the plot includes a 45-degree line representing a virtual scenario of a perfect match between traffic counts and estimated flows. The 45-degree line is useful in quickly identifying overestimation (flow>count) or underestimation (flow<count) of a flow. Highway validation aims to make most points as close to this line as possible. An ideal validation would have all count locations on the 45-degree line. However, a perfect match for all count locations is almost impossible to achieve due to various reasons such as errors in traffic counts, simulation errors in the model, etc. Acknowledging this fact, Caltrans provides recommendations on maximum (high and low) deviations of an estimation flow from the corresponding traffic count value. The scatter plot displays these Caltrans high and low deviations as red and green lines above and below the 45-degree line respectively. Lastly, a linear regressed line of all points is also added to the plot. The slope of the regressed line measures regional match between the estimated flows and the traffic counts - a slope of less than 1 means underestimation regionwide and more than 1 indicates overestimation. The plot also displays a r-squared value representing goodness of fit of all data points.

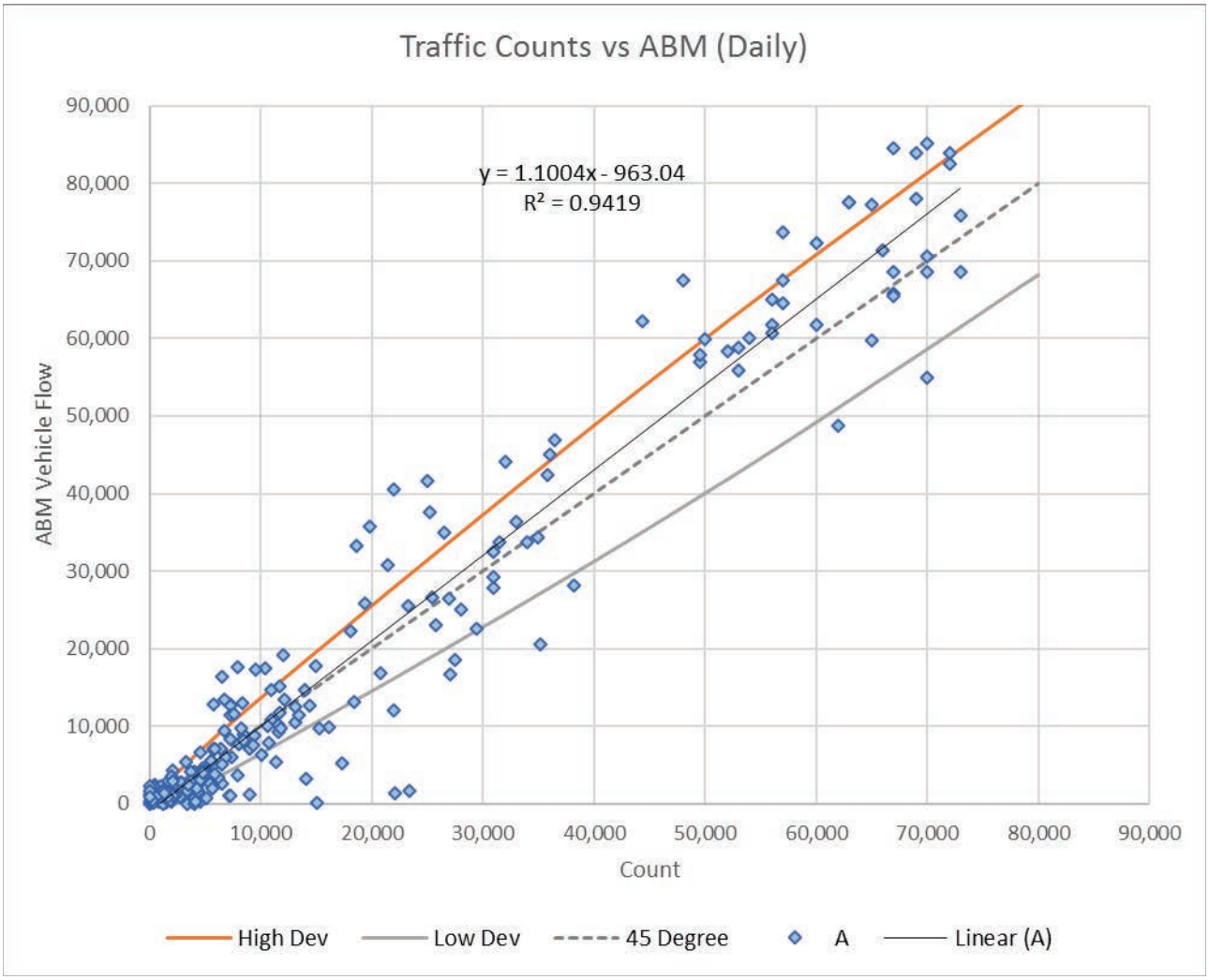


FIGURE 18: DAILY ESTIMATED FLOWS VS OBSERVED TRAFFIC COUNTS

As displayed in the scatter plot, the linear regressed line has a slope of 1.10 and R-squared value of 0.94. The r-squared close to 1.0 indicates that fitted regression line represents the data well.

Facility Type

Table 23 presents a summary of links by facility type. The facilities in the Tulare region are grouped into three categories: freeway & highway, arterial, and other (collectors, local roads, ramps). The table also contains the FHWA's guidelines of recommended threshold of difference for each facility type. Overall, the estimated traffic volume from the model matches closely with

the total counts on the compared links. The comparison within the facility type exhibits a reasonable match. The model's estimates of traffic volume meet the Caltrans' recommended thresholds for arterial and other, while freeway & highway being slightly over the threshold for freeway.

TABLE 23. HIGHWAY VALIDATION – BY FACILITY TYPE

FACILITY TYPE	COUNT	ABM	DIFF	DIFF (%)	*CALTRANS DIFF
Freeway & Highway	2,605,100	2,832,023	226,923	8.7%	7%
Arterial	1,256,559	1,211,523	(45,036)	-4%	15%
Other (Collector, local, and ramp)	22,849	20,651	(2,197)	-10%	25%
Total	**3,884,508**	**4,064,197**	**179,689**	**4.6%**	**25%**

*Source: FHWA's Travel Model Validation and Reasonableness Checking Manual (Cambridge Systematics, Inc. 2010)

Volume Group

The estimated and observed volumes are compared by the level of volume on the links. Table 24, compares the estimated traffic flows and the traffic counts in 7 volume groups that are formed based on the range of the observed traffic counts. Overall, links with lower volumes show bigger differences and RMSE values. This is not surprising given that these links are more likely to be collectors or arterials and as we discussed before, respective traffic counts are less reliable. The count locations with observed volume less than 60,000 show larger RMSE value than desired (CalTrans recommendations).

TABLE 24. HIGHWAY VALIDATION – BY VOLUME GROUP

VOLUME GROUP		COUNT	ABM	DIFF	DIFF (%)	RMSE	*CALTRANS RMSE
>=0	<1000	9,373	24,113	14,740	157%	245%	60%
>=1000	<2500	50,488	41,369	(9,119)	-18%	58%	47%
>=2500	<5000	155,231	91,900	(63,331)	-41%	56%	36%
>=5000	<10000	282,179	301,274	19,096	7%	61%	29%
>=10000	<25000	568,575	528,476	(40,099)	-7%	57%	25%
>=25000	<60000	864,663	938,718	74,055	9%	29%	22%
>=60000		1,954,000	2,138,346	184,346	9%	16%	21%
ALL		**3,884,508**	**4,064,197**	**179,689**	**5%**	**37%**	**40%**

* Source: FHWA's Travel Model Validation and Reasonableness Checking Manual (Cambridge Systematics, Inc. 2010)

Key Highway Corridors

Table 25 compares seven key high-volume highway corridors in the Tulare region: SR63, SR65, SR99, SR137, SR190, SR198, and SR216. All the highway corridors, except for SR63, are doing reasonably well with a percentage difference within 15% of the observed traffic count. The SR63 corridor exhibits over performance with an overestimation of 25%.

TABLE 25. HIGHWAY VALIDATION – KEY CORRIDORS

ROUTE	CALTRANS_AADT	ABM_VOL	DIFF	DIFF (%)
63	347,050	432,558	85,508	25%
65	328,150	321,006	(7,144)	-2%
99	1,782,000	1,934,324	152,324	9%
137	160,300	165,079	4,779	3%
190	154,220	130,739	(23,481)	-15%

ROUTE	CALTRANS_AADT	ABM_VOL	DIFF	DIFF (%)
198	731,650	809,752	78,102	11%
216	100,400	102,852	2,452	2%
TOTAL	**3,603,770**	**3,896,311**	**292,541**	**8%**

To examine the model's performance along corridors, separate validation plots are prepared for these key highway corridors (see Figure 19 to Figure 24). The plots validate estimated model flows at each count location on the corridor. The count locations are arranged sequentially either from South to North or West to East depending on the corridor's travel direction. Note that the direction of the corridor represents only the order of count locations and not the direction of traffic flow. The traffic flows for both estimated and observed data are aggregates of the two flow directions (A to B and B to A). Each figure contains two solid lines representing the estimated traffic flows and the observed counts for count locations on the corridor. It also includes a dotted line showing percentage difference between the two data. The count locations are placed on the X-axis, whereas traffic volume (in vehicles) is on the primary Y-axis and percentage difference between the estimated and the observed traffic volume is on the secondary Y-axis.

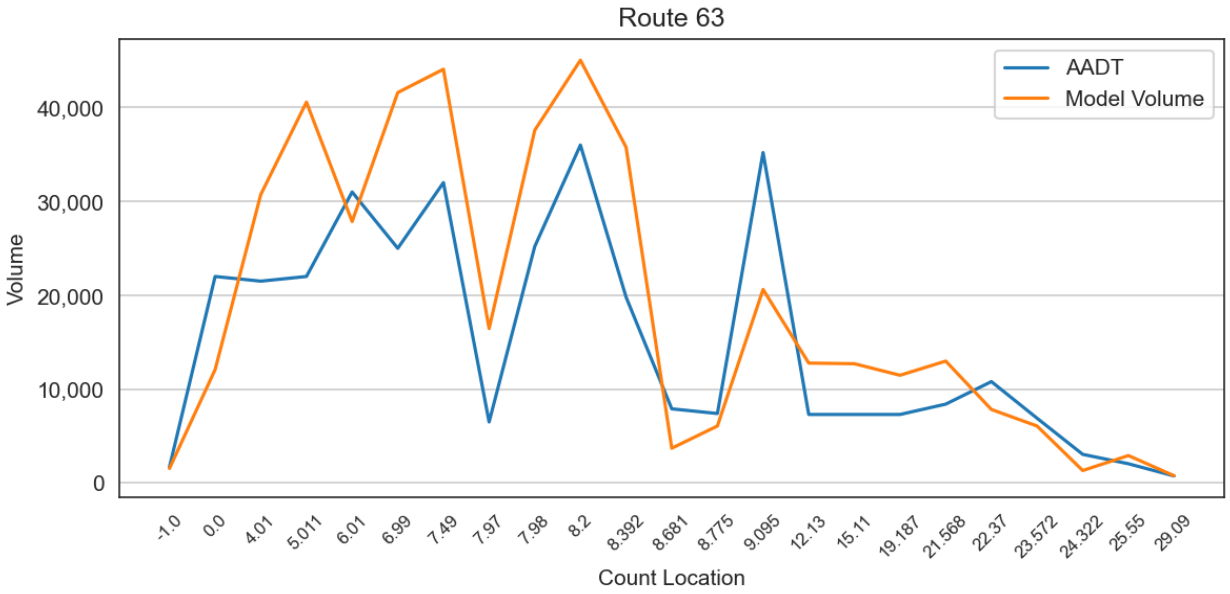


FIGURE 19. HIGHWAY VALIDATION – SR63

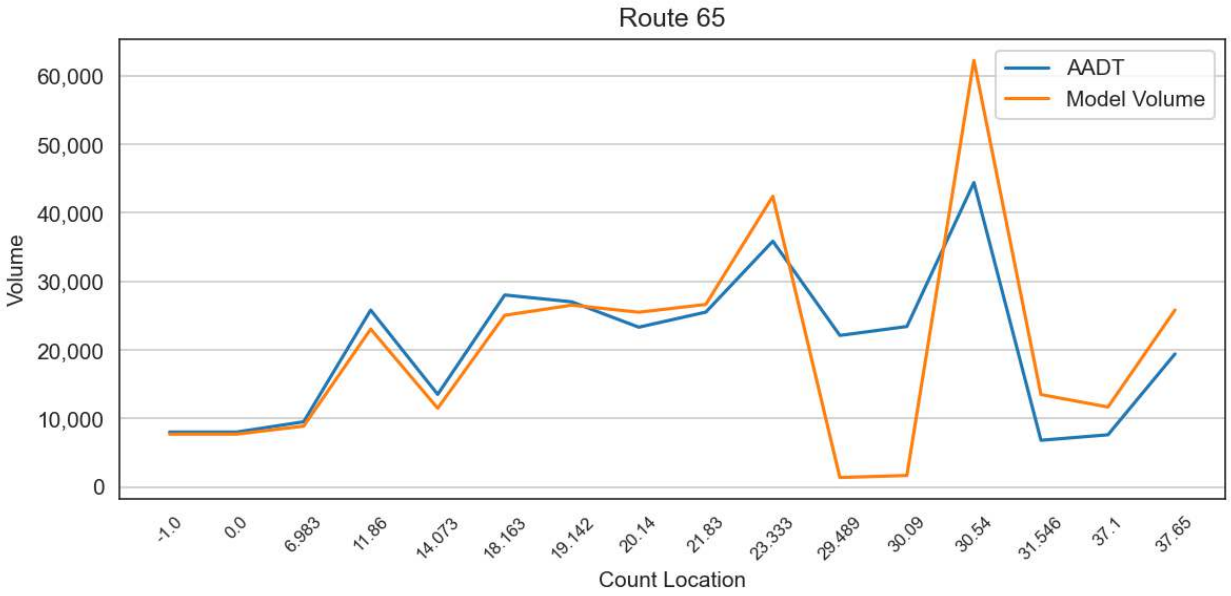


FIGURE 20. HIGHWAY VALIDATION – SR65



FIGURE 21: HIGHWAY VALIDATION – SR99

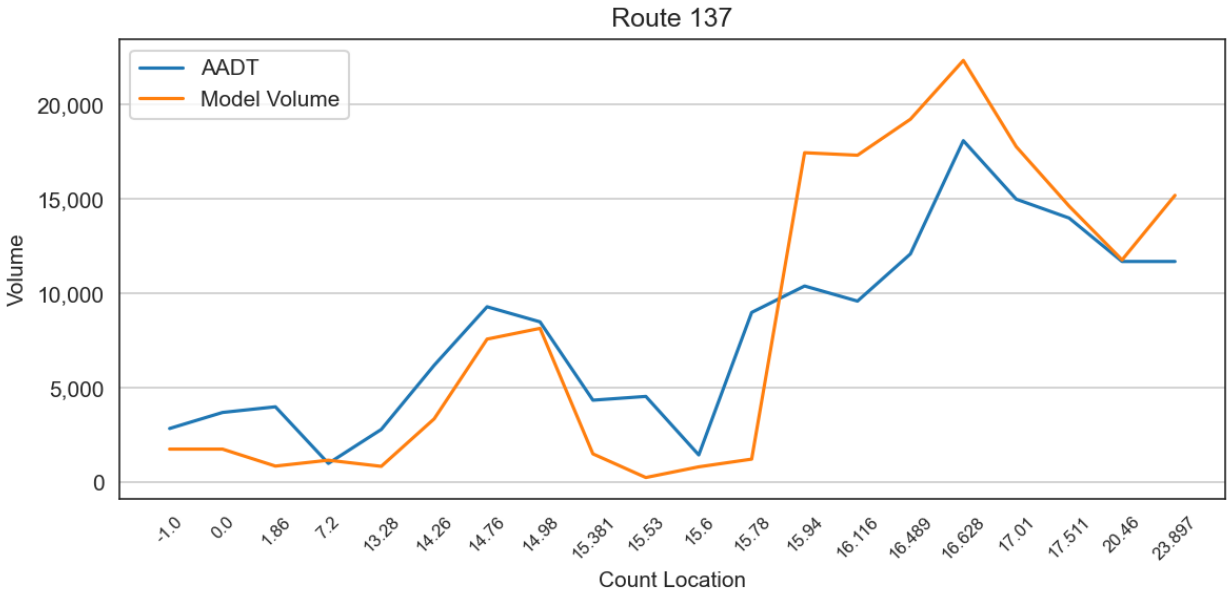


FIGURE 22: HIGHWAY VALIDATION – SR137

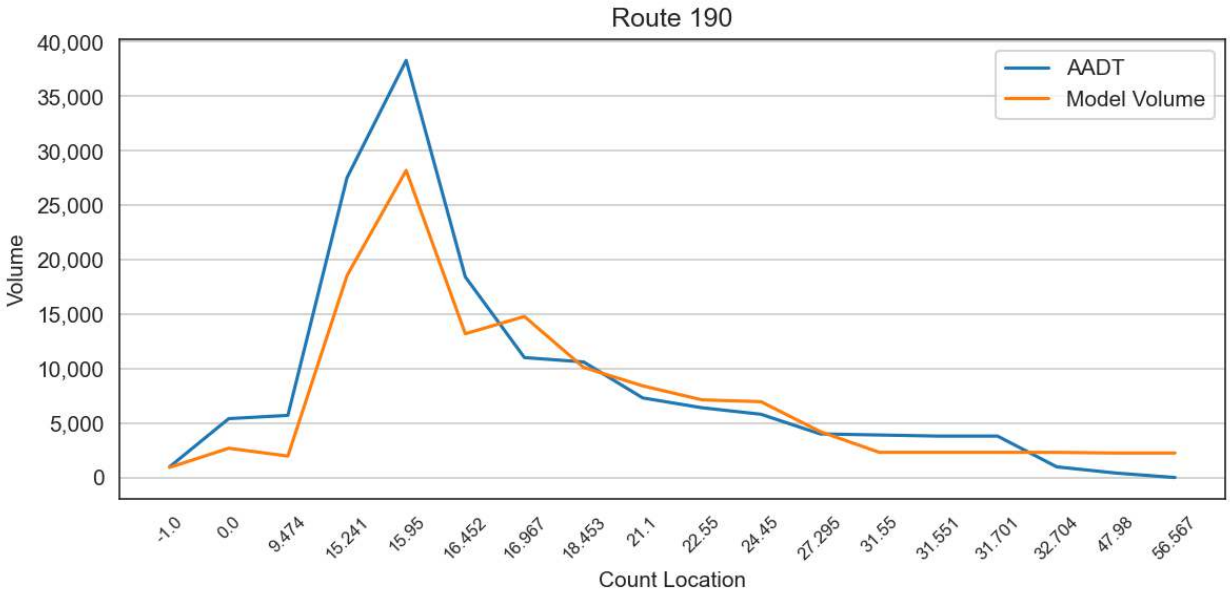


FIGURE 23: HIGHWAY VALIDATION – SR190

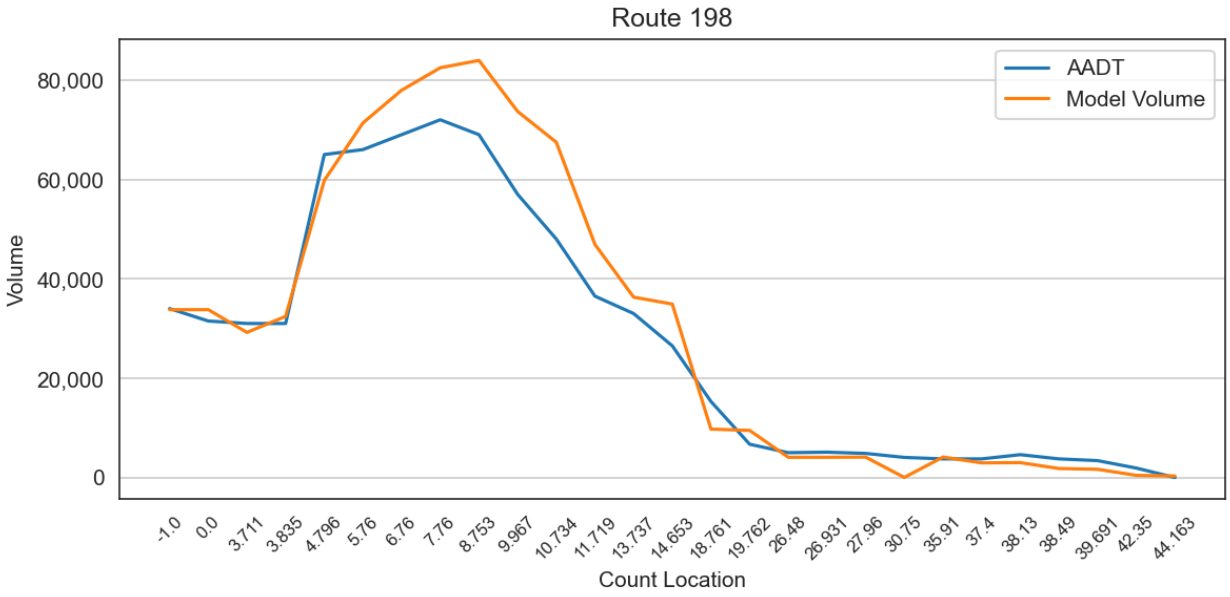


FIGURE 24: HIGHWAY VALIDATION – SR198



FIGURE 25: HIGHWAY VALIDATION – SR216

Transit Validation

Transit ridership produced by the model is compared against the observed ridership. The ridership (boarding) is compared regionally. Due schedule and budget constraints, the validation by transit line was not performed.

The FHWA previously provided guidelines to check reasonableness of the transit assignment results from a model. The relevant recommended guidelines are presented in Table 26.

TABLE 26. FHWA'S TRANSIT VALIDATION GUIDELINES

METRIC	THRESHOLD
Difference between actual counts and model results for a given year by Transit Mode (e.g. light rail, bus, etc.)	+/- 10%

*Source: The Travel Model Validation and Reasonableness Checking Manual, II Second Edition, September 2010.

Region

Regionally, Table 27, the ABM generates transit boardings within 9% of the observed ridership.

TABLE 27. TRANSIT SUMMARIES - REGIONAL

MEASURE	OBSERVED	ABM	DIFF	% DIFF
Boardings	5,175	4,688	(487)	-9%

3.3 SUMMARY

The Tulare ABM is reasonably calibrated to match observed travel behavior reported in the 2022-2023 Central California Travel Survey (CCTS).

The model validation also showed reasonable match of estimated volumes with observed traffic counts. However, there are a few areas that still need improvement and shall be addressed in future model development tasks:

- The external travel is informed by the Streetlight data. However, the model development team spent significant time to quality check and resolve issues when possible while developing external trip tables input to the model. We suspect the external trip tables still contain issues impacting model's performance. Better-quality data for external travel would certainly improve model validation.
- DaySim is calibrated to represent the observed travel behavior primarily in the 2022-2023 CCTS. However, the survey was weighted to 2019 conditions. Due to schedule and budget constraints, the project did not re-weight the data to the model base year (2022). Future work should undertake the re-weighting exercise to represent base year conditions.
- Even though the ABM reasonably predicts VMT travel within an acceptable range, the DaySim model outputs do not consistently match the survey data. This was partly by design as VMT was the primary target and the schedule constraint made a full-scale calibration infeasible. However, future model updates and calibration should take advantage of the availability of the CCTS to improve model calibration and validation.

4.0 SENSITIVITY TESTS

Sensitivity testing assesses the model's sensitivity to changing inputs like fuel prices, new land uses, or new infrastructure. During this project, four sets of tests are designed to examine the Tulare ABM's sensitivity and include:

1. Auto operating Cost
2. Highway capacity
3. Household
4. Employment

For each test, the 2022 base year setup was used.

4.1 CHANGE IN AUTO OPERATING COST (AOC)

Two model runs, Table 28, examine model's response to change in auto operating cost (AOC): 50% increase in AOC (Build_150) and 50% decrease in AOC (Build_50).

TABLE 28. SENSITIVITY TESTS – AUTO OPERATING COST

SENSITIVITY TEST	DESCRIPTION	AOC (CENTS/MILE)
Base	Base year (2022) AOC	0.24
Build_150	AOC is 150% of the base AOC	0.37
Build_50	AOC is 50% of the base AOC	0.12

The next section details the process for setting up the ABM to execute these tests. Subsequent sections present and discuss the resulting model outputs.

Model Setup

The ABM uses a consistent auto operating cost (AOC) value across the demand (DaySim) and the supply (network assignment) side. Both model systems read an input CSV file[11] that contains auto operating cost (cents per mile) by year.

For each test, the input CSV file is updated with a new AOC value.

[11] The input CSV file is here: 1_Inputs\6_Static\AutoOperatingCost.csv

Results

The outputs from the two model runs are compared with the outputs from the base year model run. The sensitivity of the model is measured by change in trips by destination purpose, trip mode shares, transit ridership, and regional VMT.

Trips by Destination Purpose

As expected, Table 29, increase in auto-operating cost by 50% results in reduction in trips. That means residents of Tulare County are travelling less due to the higher cost of traveling by car. Decreasing the auto-operating cost increased number of trips.

TABLE 29. AOC SENSITIVITY - TRIPS BY PURPOSE, PERCENT CHANGE FROM BASE

DESTINATION PURPOSE	BUILD_150	BUILD_50
Work	-0.1%	0.4%
School	-0.9%	1.1%
Escort	-1.5%	1.7%
Personal business	0.1%	0.1%
Shop	-0.4%	0.4%
Meal	0.3%	-0.3%
Social recreation	1.1%	-1.6%
Home	-1.0%	1.3%
TOTAL	**-0.6%**	**0.8%**

Trip Mode Share

As presented in Table 30, due to increase in auto operating cost the auto modes see reduction in trips. The higher occupancy auto modes show relatively lower sensitivity with shared-ride (SR) 2 losing only 1.6% of the original SR2 trips. The shared-ride 3+ mode lost only 0.5% trips. Mostly travelers switch to non-auto modes to minimize increase cost of travel. All non-auto modes including transit (walk or drive), bike, and walk see an increase in their tours. The results suggest that higher cost of travel pushes travelers to either choose a higher occupancy auto mode or travel by non-auto modes (transit, bike and walk). The TNC mode showed an increase

of 6.0%. The TNC costs remained fixed in this sensitivity test suggesting that TNC became more affordable compared to the cost of a private auto in some cases.

Lowering the operating cost (50% decrease in AOC) results in more trips by auto mode and fewer by non-auto modes. The travelers are making more drive-alone trips (2.2%) because of its lower cost. Even higher occupancy (SR3+) travelers are choosing for a lower occupancy travel (drive-alone or SR2). The non-auto modes generally respond similarly, with bike, walk and transit trip mode shares all decreasing. TNC mode also decreases, suggesting that the reduced auto operating cost makes driving a private auto more affordable than TNC services in some cases.

TABLE 30. AOC SENSITIVITY - TRIP MODE SHARE, PERCENT CHANGE FROM BASE

TRIP MODE	BUILD_150	BUILD_50
Drive Alone	-1.9%	2.2%
Shared Ride 2	-1.6%	1.7%
Shared Ride 3+	-0.5%	0.5%
Transit	6.3%	-5.6%
Bike	5.6%	-4.9%
Walk	5.1%	-5.6%
School Bus	-1.4%	2.9%
TNC	6.0%	-5.6%
Total	**-0.6%**	**0.8%**

Regional Transit Ridership

The regionwide total transit ridership, Table 32, responds expectedly to the change in auto operating cost. The increase in the auto operating cost increases the ridership by 6.6%, whereas decreasing the cost decreases the ridership by 5.5%.

To examine magnitude of the ridership response, a mid-link elasticity value in response to the AOC change are calculated. The ABM is producing elasticities of 0.15 and 0.09 for 50% increase in AOC and 50% decrease in AOC respectively.

TABLE 31. AOC SENSITIVITY – TRANSIT RIDERSHIP, PERCENT CHANGE FROM BASE

MEASURE	BUILD_150	BUILD_50
Transit Ridership	6.6%	-5.5%
Elasticity	0.15	0.09

Regional VMT

The regionwide total vehicle miles travelled (VMT), Table 32, responds expectedly to the change in auto operating cost. Increase in the auto operating cost reduce the VMT by 3.6%, whereas decreasing the cost increase the VMT by 4.5%.

To examine magnitude of the VMT response, a mid-link elasticity value in response to the AOC change are calculated. The ABM is producing elasticities of -0.08 and -0.07 for 50% increase in AOC and 50% decrease in AOC respectively.

TABLE 32. AOC SENSITIVITY – REGIONAL VMT, PERCENT CHANGE FROM BASE

MEASURE	BUILD_150	BUILD_50
VMT	-3.6%	4.5%
Elasticity	-0.08	-0.07

4.2 CHANGE IN HIGHWAY CAPACITY

Two model runs, Table 33, examine model's response to change in highway capacity: 50% increase in capacity (Build_150) and 50% decrease in capacity (Build_50).

TABLE 33. SENSITIVITY TESTS – HIGHWAY CAPACITY

SENSITIVITY TEST	DESCRIPTION	CAPACITY FACTOR
Base	Base year (2022) highway capacity	1
Build_150	Capacity is 150% of the base capacity	1.5
Build_50	Capacity is 50% of the base capacity	0.5

The next section details the process for setting up the ABM to execute these tests. Subsequent sections present and discuss the resulting model outputs.

Model Setup

The ABM calculates capacity for each highway street in an initial step that prepares a planning network for network models. That step is updated to add a factor in capacity calculations for these tests. The factors used in each test are provided in Table 33.

Results

The outputs from the two model runs are compared with the outputs from the base year model run. The sensitivity of the model is measured by change in trips by destination purpose, trip length by destination purpose, trip mode share, transit ridership, and regional VMT.

Trips by Destination Purpose

As shown in Table 34, changes (increase or decrease) in highway capacity result in minimal impact on travel making. That means the residents of Tulare County are not seeing much change in travel conditions due to change in highway capacity. The results indicate enough capacity on the County roads so increase or decrease in capacity does not provide much benefit to resident travelers in the County.

TABLE 34. HIGHWAY CAPACITY SENSITIVITY - TRIPS BY PURPOSE, PERCENT CHANGE FROM BASE

DESTINATION PURPOSE	BUILD_150	BUILD_50
Work	0.0%	0.1%
School	-0.1%	0.2%
Escort	-0.1%	0.1%
Personal business	0.1%	0.0%
Shop	0.0%	-0.2%
Meal	0.0%	0.0%
Social recreation	-0.1%	-0.1%
Home	0.0%	-0.1%
TOTAL	**0.0%**	**0.0%**

Trip Length by Destination Purpose

Trip lengths show expected impact on travel due to change in highway capacity, see Table 35. The increase in highway capacity results in increase in trip lengths, though a small increase (0.6% increase in regional average trip length). Again, this suggests enough capacity on Tulare highways, therefore, additional capacity does not provide much benefit in terms of travel times. The decrease in capacity has a bigger impact with 4.6% decrease in regional average trip length.

TABLE 35. HIGHWAY CAPACITY SENSITIVITY – TRIP LENGTH BY PURPOSE, PERCENT CHANGE FROM BASE

DESTINATION PURPOSE	BUILD_150	BUILD_50
Home	0.7%	-4.4%
Work	0.1%	-2.5%
School	1.1%	-8.9%
Escort	1.0%	-4.2%
Personal business	0.2%	-3.4%
Shop	0.2%	-2.6%
Meal	0.5%	-3.3%
Social recreation	0.7%	-3.9%
TOTAL	**0.6%**	**-4.3%**

Trip Mode Share

Similar to the trips by purpose, change in highway capacity does not impact trip mode shares much, Table 36.

TABLE 36. HIGHWAY CAPACITY SENSITIVITY - TRIP MODE SHARE, PERCENT CHANGE FROM BASE

TRIP MODE	BUILD_150	BUILD_50
Drive Alone	0.0%	-0.1%
Shared Ride 2	0.0%	-0.3%
Shared Ride 3+	0.0%	-0.3%
Transit	0.0%	1.2%
Bike	-1.5%	0.3%
Walk	-0.5%	1.9%
School Bus	0.8%	-0.1%
TNC	-0.9%	2.9%
Total	**0.0%**	**0.0%**

Regional VMT

The regionwide total vehicle miles travelled (VMT), Table 37, responds expectedly to the change in highway capacity, though the impact is small. The increase in highway capacity increases VMT by 0.4%, whereas decreasing highway capacity decreases the VMT by 2.6%.

To examine magnitude of the VMT response, a mid-link elasticity value in response to the highway capacity change are calculated. The ABM is producing elasticities of 0.009 and -0.039 for 50% increase in highway capacity and 50% decrease in highway capacity respectively.

TABLE 37. HIGHWAY CAPACITY SENSITIVITY – REGIONAL VMT, PERCENT CHANGE FROM BASE

MEASURE	BUILD_150	BUILD_50
VMT	0.4%	-2.6%
Elasticity	0.009	0.039

4.3 CHANGE IN POPULATION

Two model runs, Table 38, examine model's response to change in population (or households): 100% increase in households (Build_200) and 50% decrease in households (Build_50).

TABLE 38. SENSITIVITY TESTS – POPULATION

SENSITIVITY TEST	DESCRIPTION	FACTOR
Base	Base year (2022) households	1
Build_200	Households are 200% of the base households	2
Build_50	Households are 50% of the base households	0.5

The next section details the process for setting up the ABM to execute these tests. Subsequent sections present and discuss the resulting model outputs.

Model Setup

The ABM uses synthetic population files (households and persons) as inputs. The population files are generated using a population synthesizer tool, PopulationSim. For these tests, PopulationSim is run by factoring up (2.0) and down (0.5) the household controls to generate new population files and use in the model runs.

Results

The outputs from the two model runs are compared with the outputs from the base year model run. The sensitivity of the model is measured by change in trips by destination purpose, trip mode shares, transit ridership, and regional VMT.

Trips by Destination Purpose

As expected, Table 39, increase in households by 100% results in increase in trips. Since there are more travelers in the region, the Tulare County road infrastructure experiences more travel. Decreasing the households decreased number of trips as there are now fewer travelers.

TABLE 39. POPULATION SENSITIVITY - TRIPS BY PURPOSE, PERCENT CHANGE FROM BASE

DESTINATION PURPOSE	BUILD_200	BUILD_50
Work	98.9%	-48.8%
School	17.6%	-18.7%
Escort	43.7%	-2.7%
Personal business	65.4%	-32.7%
Shop	52.1%	-16.1%
Meal	57.1%	-22.7%
Social recreation	52.7%	-15.3%
Home	48.0%	-16.0%
TOTAL	**50.8%**	**-17.8%**

Trip Mode Share

All modes see increase in trips when households are increase and see decrease in trips when households are decreased, Table 40.

TABLE 40. POPULATION SENSITIVITY - TRIP MODE SHARE, PERCENT CHANGE FROM BASE

TRIP MODE	BUILD_200	BUILD_50
Drive Alone	69.3%	-38.2%
Shared Ride 2	34.1%	-5.3%
Shared Ride 3+	40.2%	-4.3%
Transit	24.3%	-3.6%
Bike	43.4%	-20.1%
Walk	64.3%	-19.3%
School Bus	36.1%	-13.6%

TRIP MODE	BUILD_200	BUILD_50
TNC	43.0%	-23.1%
Total	**50.8%**	**-17.8%**

Regional Transit Ridership

The regionwide total transit ridership, Table 41, also responds expectedly to the change in households in the region.

To examine magnitude of the ridership response, a mid-link elasticity value in response to the household change are calculated. The ABM is producing elasticities of 0.33 and 0.04 for 100% increase in households and 50% decrease in households respectively.

TABLE 41. POPULATION SENSITIVITY – TRANSIT RIDERSHIP, PERCENT CHANGE FROM BASE

MEASURE	BUILD_200	BUILD_50
Transit Ridership	24.3%	-2.7%
Elasticity	0.33	0.04

Regional VMT

The regionwide total vehicle miles travelled (VMT), Table 42, responds expectedly to the change in regional population. The increase in the population reduces the VMT by 3.6%, whereas decrease in the population increases the VMT by 4.5%.

To examine magnitude of the VMT response, a mid-link elasticity value in response to the population change are calculated. The ABM is producing elasticities of -0.08 and -0.07 for 100% increase in households and 50% decrease in households respectively.

TABLE 42. POPULATION SENSITIVITY – REGIONAL VMT, PERCENT CHANGE FROM BASE

MEASURE	BUILD_200	BUILD_50
VMT	31.0%	-15.4%
Elasticity	0.40	0.26

4.4 CHANGE IN EMPLOYMENT

Two model runs, Table 43, examine model's response to change in employment: 50% increase in employment (Build_150) and 50% decrease in employment (Build_50).

TABLE 43. SENSITIVITY TESTS – EMPLOYMENT

SENSITIVITY TEST	DESCRIPTION	FACTOR
Base	Base year (2022) employment	1
Build_150	Employment are 150% of the base employment	1.5
Build_50	Employment are 50% of the base employment	0.5

The next section details the process for setting up the ABM to execute these tests. Subsequent sections present and discuss the resulting model outputs.

Model Setup

The ABM uses an input microzone (MAZ) land use file that contains employment for each microzone. For the tests, the MAZ land use file is factored up (1.5) and down (0.5) and input in the model runs.

Results

The outputs from the two model runs are compared with the outputs from the base year model run. The sensitivity of the model is measured by change in trips by destination purpose, trip mode shares, transit ridership, and regional VMT.

Trips by Destination Purpose

As expected, Table 44, increase in employment results in increase in trips, though small. Decreasing employment decreased number of trips.

TABLE 44. EMPLOYMENT SENSITIVITY - TRIPS BY PURPOSE, PERCENT CHANGE FROM BASE

DESTINATION PURPOSE	BUILD_150	BUILD_50
Work	0.0%	0.0%
School	-0.4%	0.5%
Escort	0.9%	-1.4%
Personal business	0.0%	0.2%
Shop	0.1%	-0.4%
Meal	-0.3%	0.5%
Social recreation	-1.2%	1.7%
Home	0.6%	-1.0%
TOTAL	**0.2%**	**-0.4%**

Trip Mode Share

Modes with smaller share of trips (e.g., bike, transit) show larger change. The bigger modes (e.g., auto, walk) experience relatively lower change. Overall, the trend is expected, Table 45.

TABLE 45. EMPLOYMENT SENSITIVITY - TRIP MODE SHARE, PERCENT CHANGE FROM BASE

TRIP MODE	BUILD_150	BUILD_50
Drive Alone	-0.8%	1.0%
Shared Ride 2	0.3%	-0.3%
Shared Ride 3+	-0.3%	0.2%
Transit	9.1%	-13.3%
Bike	18.7%	-26.6%
Walk	2.9%	-4.4%
School Bus	1.0%	0.4%

TRIP MODE	BUILD_150	BUILD_50
TNC	4.4%	-5.8%
Total	**0.2%**	**-0.4%**

Regional Transit Ridership

The regionwide total transit ridership, Table 46, also responds expectedly to the change in employment in the region.

To examine magnitude of the ridership response, a mid-link elasticity value in response to the employment change are calculated. The ABM is producing elasticities of 0.24 and 0.21 for 50% increase in employment and 50% decrease in employment respectively.

TABLE 46. EMPLOYMENT SENSITIVITY – TRANSIT RIDERSHIP, PERCENT CHANGE FROM BASE

MEASURE	BUILD_150	BUILD_50
Transit Ridership	10.0%	-20.8%
Elasticity	0.24	0.21

Regional VMT

The regionwide total vehicle miles travelled (VMT), Table 47, responds expectedly to the change in employment. The increase in employment increases the VMT by 5.0%, whereas decreasing the employment decreases the VMT by 5.1%.

To examine magnitude of the VMT response, a mid-link elasticity value in response to the employment change are calculated. The ABM is producing elasticities of 0.12 and 0.08 for 50% increase in employment and 50% decrease in employment respectively.

TABLE 47. EMPLOYMENT SENSITIVITY – REGIONAL VMT, PERCENT CHANGE FROM BASE

MEASURE	BUILD_150	BUILD_50
VMT	5.0%	-5.1%
Elasticity	0.12	0.08

4.5 SUMMARY

Four sets of tests are conducted to examine the Tulare ABM's sensitivity. The results of change in these inputs were compared with base scenario and appropriate measures were calculated to analyze change in results. The model is behaving with reasonable sensitivity in these sensitivity tests.

5.0 TULARE ABM USER'S GUIDE

This chapter describes model setup and steps to run the Tulare ABM for base year 2022. It also describes the structure and content of the model directory.

5.1 SOFTWARE REQUIREMENTS

The instructions are for a machine with Windows operating systems (Windows 7). To setup the Tulare ABM, following software are required:

Cube Voyager

A cube version 6.4.2 or later should be installed on the machine.

Python - Anaconda

Miniforge is a minimal installer for the Conda package manager. Conda is a python data science platform. It contains a lot of useful python libraries. We are using a python script in our CUBE work flow that would require some python libraries. Instead of installing libraries separately it is better to install Miniforge with all the required libraries. Miniforge was provided to the Tulare County Association of Governments as it is too large to upload to GitHub.

PopulationSim uses Anaconda 3. The installation requirements are provided in Appendix B.

R Software

R v3.4.4 should be installed on the machine. The model uses R to generate summaries for both PopulationSim and DaySim outputs, making it essential for validating the results. This version of R can be downloaded from CRAN website: https://cran.r-project.org/bin/windows/base/old/

5.2 SETUP ABM

System Setup

Once all the required software is installed (5.1 Software Requirements), users need to copy the following files to their respective directories to get the ABM setup:

OMX DLL

The AB model uses an OMX DLL to convert Cube skims to OMX format, which are then read in DaySim. Users need to copy OMX DLL ("OMXLib.dll") to the cube voyager installation directory (C:\Program Files\Citilabs\CubeVoyager). The DLL is available under the *App* directory in the model setup.

Python Resource File

The ABM uses a Python script to run the model within the Cube environment. To do so, Cube creates a python resource file ("PYTHON.Rsc") that primarily contains the python program path. User needs to update that path (see Figure 26) and copy the resource file to the following location:

C:\Users\<username>\AppData\Roaming\Citilabs\Cube\User

The resource file is available under the *App* directory in the model setup.

```
* RSC file for User Program PYTHON
*
#PYTHON

&ProgPath=E:\Projects\Clients\TulareCOG\Phase2\Model\miniforge\envs\validation_env\python.exe
&ProgDesc=Python Software for Python Programming Language Programs Inclusion
&ProgType=1
&ProgUI=0
&UsePath=0


 &FILES
1100
 0,"Script File   ","*  ",1,PYT,"      ",1
 1,"Data File 1   ","*  ",1,PYT,"      ",1
 2,"Data File 2   ","*  ",1,PYT,"      ",1
 3,"Data File 3   ","*  ",1,PYT,"      ",1
 4,"Data File 4   ","*  ",1,PYT,"      ",1
 5,"Data File 5   ","*  ",1,PYT,"      ",1
 6,"Data File 6   ","*  ",1,PYT,"      ",1
 7,"Data File 7   ","*  ",1,PYT,"      ",1
 8,"Data File 8   ","*  ",1,PYT,"      ",1
 9,"Data File 9   ","*  ",1,PYT,"      ",1
10,"Data File 10  ","*  ",1,PYT,"      ",1

 &PARAM
 &PARHLP
 &PAREG

 &OPTION

 &OPTHLP

 &COMLIN
Inputs
Outputs

&END
```

FIGURE 26: PYTHON RESOURCE FILE – UPDATE PROGRAM PATH

Download TulareABM Codebase

To download the codebase for the model, see the GitHub User Guide on how to clone the repository and switch to the correct branch.

Unzip the Network Input Folder

For the TuareABM_2022 branch, u**nzip** "**1_Inputs**\3_Highway**TCAG_NET_1**26_1_2**.gdb.zip**" **and save the unzipped** "**TCAG_NET_**126_1_2**.gdb**" **f**older in the same "1_Inputs\3_Highway" directory.

5.3 RUN ABM

To run ABM, open the catalogue file (Tulare_ABM.cat) in Cube. A catalogue file is a group of applications (steps) run in a pre-defined order. When opened in Cube, user should see four frames on the left side (see Figure 27): Scenario, Data, App, and Keys.

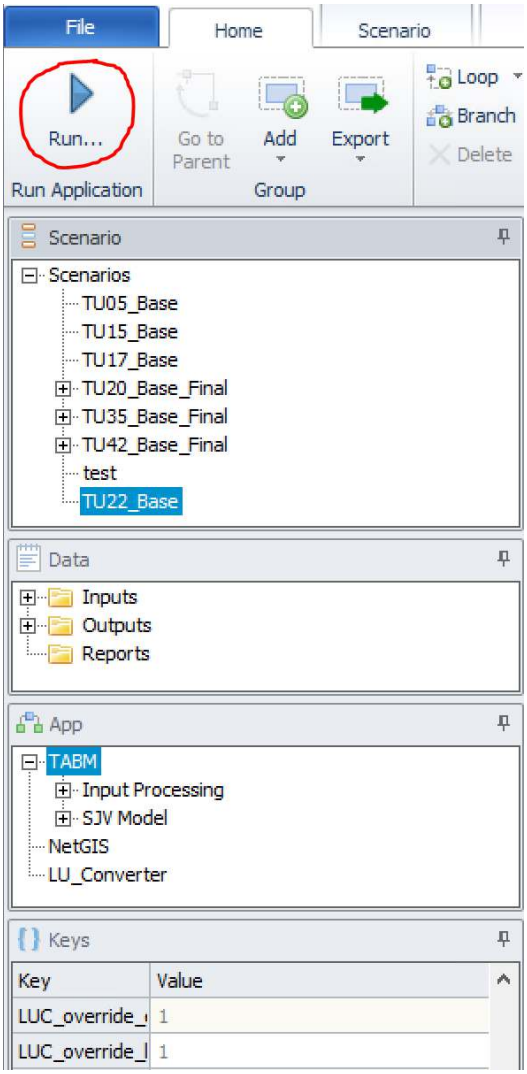


FIGURE 27: MAIN CUBE CATALOG FILE

The Scenario frame contains a list of scenarios to pick for the current run. User need to pick a scenario under this frame. For 2022, user would select TU22_BASE. The Data frame contains a list of inputs and outputs. User do not need to do anything here. The Keys section contains a list of parameters. Again, user do not need to anything here. The *Keys* section contains a list of parameters. When a scenario is selected (double-clicked) a screen will pop-up showing the catalog keys and their values to the user as shown in Figure 28. Table 48 describes the new keys the added as part of the model update and enhancements. A comprehensive list of catalog keys is provided in Appendix E.

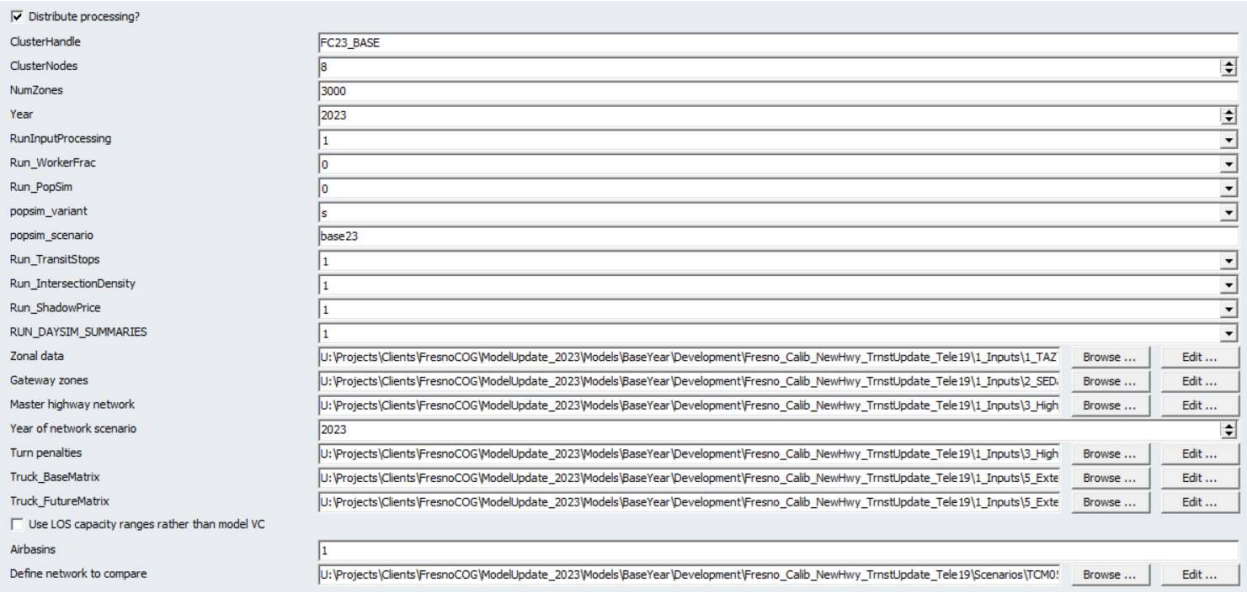


FIGURE 28: SCENARIO KEYS SCREEN

TABLE 48: NEW CATALOG KEYS

KEY	DEFAULT VALUE	DESCRIPTION
RunInputProcessing	1	0 to skip the input processing step. 0 may be selected if a model run does not need to re-generate DaySim inputs, does not have any network updates.
Run_WorkerFrac	0	This step generates the IXXI worker fractions used by DaySim and developed from LEHD Lodes data. This input file only needs to be created for a new model base year

KEY	DEFAULT VALUE	DESCRIPTION
Run_PopSim	0	The PopulationSim setup is run from the Cube Catalog. This step only needs to be run if updates to the synthetic population are needed.
Run_TransitStops	1	In input processing, the transit stops file is generated when this flag is set to 1.
Run_IntersectionDensity	1	In input processing, the intersection density file is generated when this flag is set to 1.
Run_DaySimSummaries	1	After the full model run, the DaySim summaries will automatically be generated when set to 1
Run_Validation	1	After the full model run, the model validation report will automatically be generated when set to 1
ANACONDADIR	[path]\software\miniforge	Directory where miniforge folder was unzipped
R_SCRIPT	[path]\software\R	Directory where R folder was unzipped

The *App* section contains one group: TABM. This group includes two steps: Input Processing and SJV Model.

The Tulare AB model is run in one step with the option to skip input processing if needed. The two main modules are:

- Input Processing prepares initial inputs for model to use in feedback loops. The processing includes setting up the working directory, creating model networks, initial skimming, external trips, truck model etc. As bike and walk skimming is performed only once, it is also included in the input processing.
- SJV Model, includes feedback loops and final assignment. A feedback loop start with generating highway and transit skims. After generating external and truck demand, it runs DaySim. This produces demand matrices by mode and time period. The demand

matrices are then assigned on highway and transit networks for AM and MD periods. After three feedback loops, a final assignment of all four periods is performed. Assignment also include bike and walk assignments.

IMPORTANT: Here are sequential steps to run ABM:

1. Open *Tulare_ABM.cat* in Cube.
2. Select a scenario under *Scenarios* section.
3. Update the catalog keys as required for the desired model run.
4. Double click on *TABM* under *App* and click Run on the Home ribbon, as shown in Figure 29.

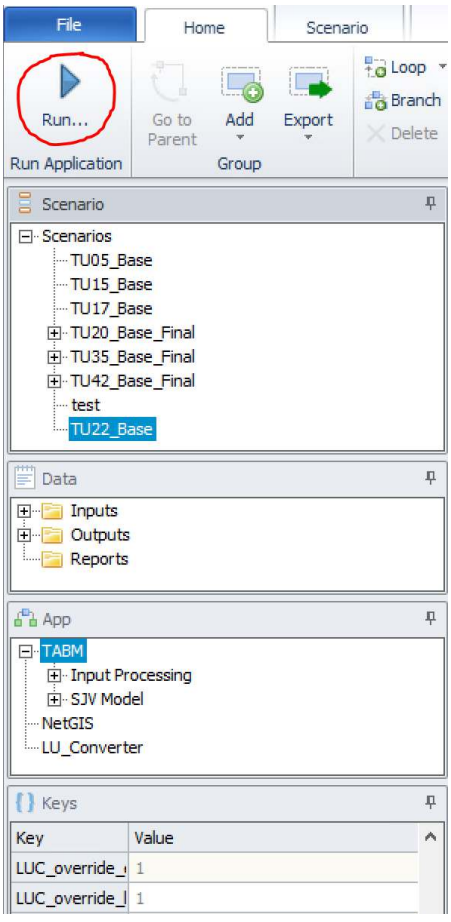


FIGURE 29: STARTING A MODEL RUN IN CUBE

5. This will bring up a Run Application window. Enter “Run Title” of your choice and click OK, as shown in Figure 30.

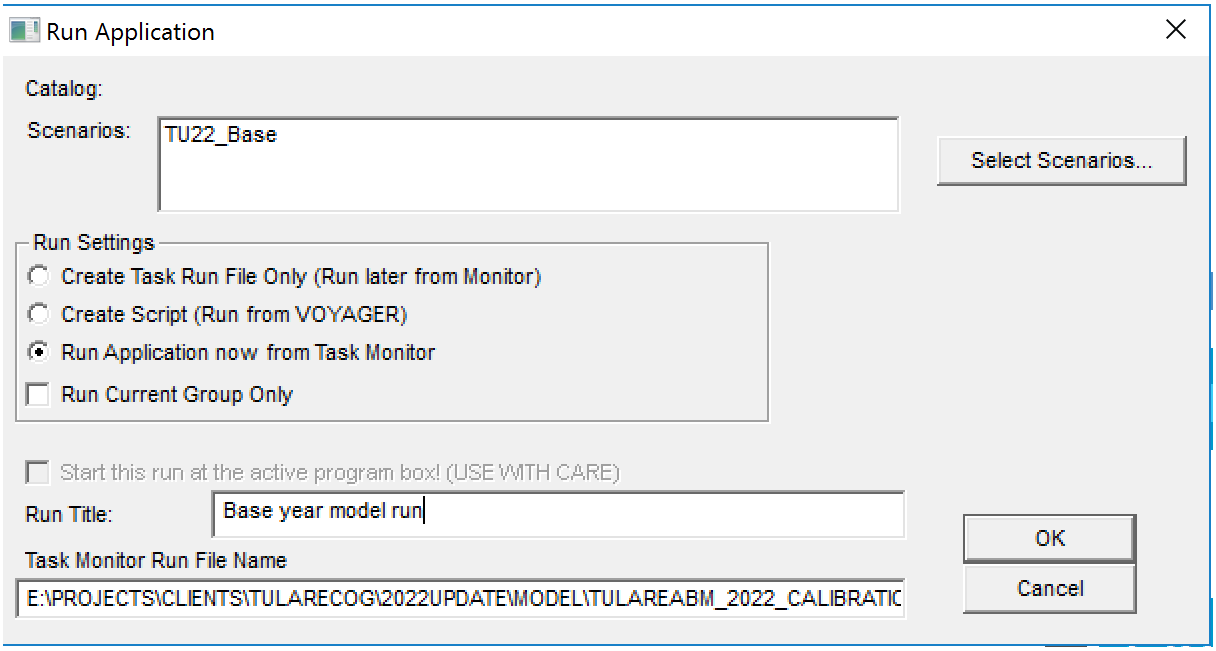


FIGURE 30: TULARE ABM RUN APPLICATION

6. This will start Cube processing.

   Note: after you click OK, Cube may prompt a message saying that errors have been found while checking for files. Ignore the error and choose “Create Job Anyway”.

5.4 MASTER DIRECTORY STRUCTURE

Figure 31 presents directory structure for the Tulare Activity-Based Model setup. The structure includes initial setup, as well as directories after a model run is finished.

The primary model file linking the entire ABM system is in the root folder and is called as "Tulare_ABM.cat". This catalogue file is used to view and run the model using Cube Voyager.

The directory "1_Inputs" holds all the input data used by the ABM system. DaySim inputs are also stored in an appropriate sub-directory (8_DaySim) within the inputs directory. The App directory houses cube scripts and other applications (DaySim executable, parcel buffer, and population sampler). The GIS folder contains geodatabase and ArcMap documents. The LandUseConverter directory contains scripts to update land use data. The PopulationSim folder contains the scripts to generate the synthetic population.

Once a model run is finished, a new directory Scenarios is added to the initial model directory. The output directory (Scenarios) contains scenario specific sub-folders (ex. TU22_BASE for year 2022). The scenario specific folders contain outputs organized by model components. In

addition, a Temp subfolder contains intermediate files produced during a scenario run. The daysim_summaries includes DaySim summary outputs.

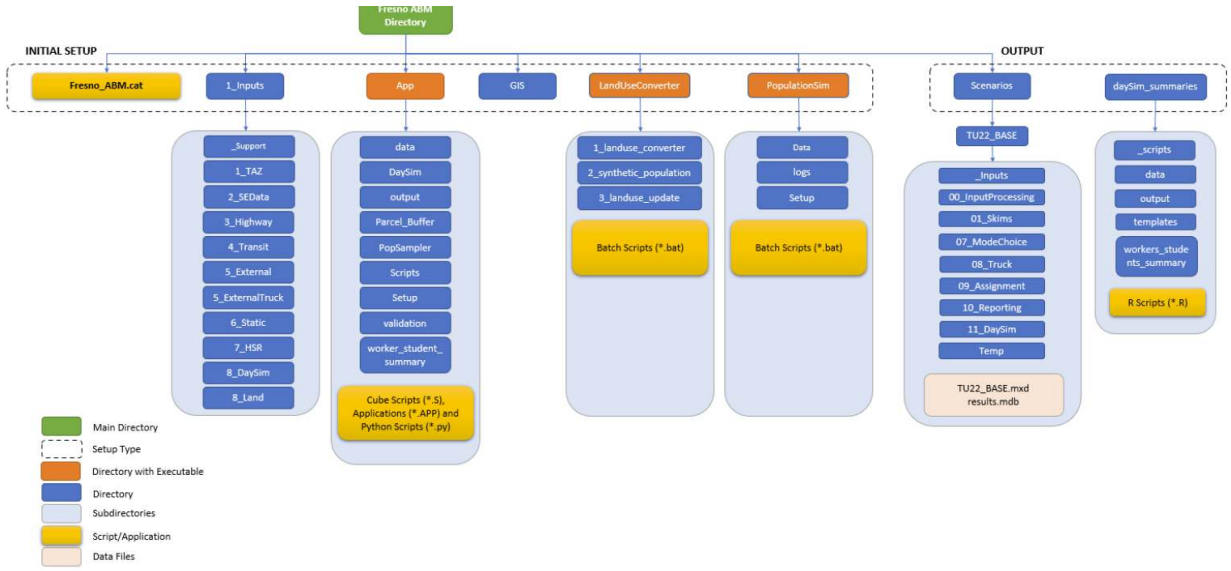


FIGURE 31: TULARE ABM DIRECTORY STRUCTURE

5.5 INPUTS

This section provides description and structure of input files required in Tulare ABM.

DaySim

This section describes input files required for a DaySim run. The DaySim input files include synthetic population (household and person files), micro-zone land-use, zone index, worker IXXI fraction, PNR nodes, coefficients, roster, roster combinations, and configuration.

Micro-zone Land-use File

The input micro-zone file provides information on location and land-use for micro-zones in the Tulare region. The file is in comma separated value format and is located at "1_Inputs/8_DaySim/02_Parcel/maz_2022_parks.csv". This file is created in-house by Tulare CAG. Table 49 presents a list of fields available in the input micro-zone file.

Off-street parking location and pricing information is used in the activity-based model system to influence mode and other choices. Note that this parking information is focused on publicly accessibility off-street locations and does not consider private off-street parking locations (such as those available only to workers in an office building), nor does it consider on-street parking location. Future year parking locations and costs can be easily added to the model system by

simply updating the input micro-zone file to identify parking capacity and costs for individual micro-zones. Where data is unavailable or unknown, the parking attributes should be set to 0.

TABLE 49: MICRO-ZONE FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
parcelid	1 – 9999999	The parcel ID number. Values must be unique positive integers, in ascending order. (Gaps are allowed, but not efficient for memory.)
xcoord_p	1-999999999	The x coordinate of the parcel centroid, in integer length units (typically SPF).
ycoord_p	1-999999999	The y coordinate of the parcel centroid, in integer length units (typically SPF).
sqft_p	0-999999999	The area of the parcel, in thousands of square length units (typically sqf, does not need to be an integer)
taz_p	1-9999999	The zone that the parcel is in. Must be a valid zone_id in the “zone” file
block_p	0-9999999	This variable is used to store park area in square feet
hh_p	Real >=0	The number of households residing on a parcel.
stugrad_p	Real >=0	The number of grade school (K-8) students enrolled in schools on a parcel
stuhgh_p	Real >=0	The number of high school (9-12) students enrolled in schools on a parcel. If this is not available separately, then set to 0 & put the number of K-12 students in stugrd_p
stuuni_p	Real >=0	The number of university/college students enrolled in schools on a parcel.
empedu_p	Real >=0	The number of educational employees working on a parcel
empfoo_p	Real >=0	The number of food service employees working on a parcel
empgov_p	Real >=0	The number of government employees working on a parcel
empind_p	Real >=0	The number of industrial employees working on a parcel
empmed_p	Real >=0	The number of medical employees working on a parcel

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
empofc_p	Real >=0	The number of (other) office employees working on a parcel
empret_p	Real >=0	The number of retail employees working on a parcel
empsvc_p	Real >=0	The number of (other) service employees working on a parcel
empoth_p	Real >=0	The number of other sector employees working on a parcel. Typically contains construction, agriculture, mining.
emptot_p	Real >=0	The total number of employees working on a parcel. Should equal the sum of the 9 previous fields.
parkdy_p	Real >=0	The number of paid public off-street parking spaces on a parcel with per day pricing. (May overlap with parkhr_p if have both types of pricing.)
parkhr_p	Real >=0	The number of paid public off-street parking spaces on a parcel with per hour pricing. (May overlap with parkdy_p if have both types of pricing.)
ppricdyp	Real >=0	The average price of public off-street parking spaces on a parcel with per day pricing. (In cents per day)
pprichrp	Real >=0	The average price of public off-street parking spaces on a parcel with per hour pricing. (In cents per hour)

Synthetic Population

DaySim requires household and person files in ASCII delimited format with a header record. The PopulationSim software produces synthetic population in two CSV files: household and person. A python script then converts these files into DaySim format to use in a DaySim run. The Household file is “1_Inputs\8_DaySim\03_Household\Tulare_household.dat” and the person file is “1_Inputs\8_DaySim\03_person\Tulare_person.dat”

Table 50 provides a list of fields available in the household file. Of the variables listed below, only five (hhno, hhsize, hhincome, hhparcel, and hhexpfac) are strictly needed by DaySim as inputs on the raw data file. One (hhvehs) is predicted by DaySim. The rest can be computed based on other data files or aren’t currently used in model application. DaySim also adds two variables to the working and output household file (“fraction_with_jobs_outside”, which is a property of the residence zone, and “zone_id” which is DaySim’s internal zone ID corresponding to “hhtaz”).

TABLE 50: HOUSEHOLD FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
hhno	1 - 9999999	The household ID number. Values must be unique positive integers, and should be in ascending order.
hhsize	1 – 99	The number of persons in the household. Must equal the number of person records for the household in the raw person file
hhvehs	0 - 99	The number of autos in the household. (This could be made optional as input, as it is predicted by DaySim.)
hhwkrs	0 – 99	The number of workers in the household. (This could be made optional as input, as it is computed by DaySim from the person records.)
hhftw	0 – 99	The number of HH members with person type=full-time worker. (This could be optional as input, as it is computed by DaySim.)
hhptw	0 – 99	The number of HH members with person type=part-time worker. (This could be optional as input, as it is computed by DaySim.)
hhret	0 – 99	The number of HH members with person type=retired adult. (This could be optional as input, as it is computed by DaySim.)
hhoad	0 – 99	The number of HH members with person type=other non-working adult. (This could be optional as input, as it is computed by DaySim.)
hhuni	0 – 99	The number of HH members with person type=university student. (This could be optional as input, as it is computed by DaySim.)
hhhsc	0 – 99	The number of HH members with person type=grade school student age 16+. (This could be optional as input, as it is computed by DaySim.)
hh515	0 – 99	The number of HH members with person type=child age 5-15. (This could be optional as input, as it is computed by DaySim.)
hhcu5	0 – 99	The number of HH members with person type=child age 0-4. (This could be optional as input, as it is computed by DaySim.)

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
hhincome	-1 – 9999999	The household annual income, in integer dollars. (A negative value is interpreted as missing data in DaySim estimation mode.)
hhownrent	1 – 9	Household own versus rent status. (This could be optional as input, as it is not currently used in the DaySim model code.)
hhrestype	1 – 9	Household residence building type. (This could be optional as input, as it is not currently used in the DaySim model code.)
hhparcel	1 – 9999999	The ID of the parcel on which the household lives. Must be a parcel ID found in the raw parcel file.
hhhtaz	1 – 9999999	The ID of the zone in which the household lives. (This could be optional as input, as the Parcel file has the parcel-zone correspondence.)
hhexpfac	Real >= 0	The expansion factor for the household – a non-negative real number. (Is typically 1.0 in a synthetic population.)
samptype	0 - 99	The type of sample used. (This could be optional as input, as it is not used in the DaySim model code, but can be useful with survey data in model estimation to identify different sample types.)

Table 51 provides a list of fields available in the person file. Of the variables in the list, only seven (hhno, pno, pptyp, pagey, pgend, pwtyp, pstyp) are needed by DaySim as inputs in the raw data file. Four (pwpcl, pspcl, ptpass and ppaidprk) are predicted by DaySim. The rest are computed based on other data files or aren't currently used in model application and can be coded as -1 by the user. DaySim also adds one variable to the beginning of each record in the output person file ("ID" which is a sequential, unique person ID created by DaySim)

TABLE 51: PERSON FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
hhno	1 - 9999999	The household ID number. Values must be unique positive integers, and should be in ascending order. Must be present in the Household file.
pno	1 – 99	The person sequence number within the household. Values must be unique positive integers within a household, and in ascending order from 1 up to “hhsize” on the Household file.
pptyp	1 - 8	Person type (1= full time worker, 2 =part time worker, 3=non-worker age 65+, 4 = other non-working adult, 5 = university student, 6 = grade school student/child age 16+, 7 = child age 5-15, 8 = child age 0-4. (There could be a switch to make this optional and compute it within DaySim for synthetic populations based on ACS PUMS. For other survey data, the coding and rules may be more variable and better done outside DaySim.)
pagey	0 – 99	Age in years (integer)
pgend	1 – 9	Gender (1=male, 2=female, 9=missing data for estimation)
pwtyp	0 - 2	Worker type (0=non-worker, 1=full time worker, 2=part time worker)
pwpcl	-1 - 9999999	Usual work location parcel ID. -1 for none/missing, otherwise must be a valid parcel ID present in the Parcel file.
pwtaz	-1 - 9999999	Usual work location zone ID. (This could be optional as input, as the Parcel file has the parcel-zone correspondence.)
pwautime	-1 - 9999999	The 1-way peak auto travel time between the residence and usual work parcels (a real number of minutes, -1 if no usual work location. Could be optional as input, used as output for calibration.)
pwaudist	-1 - 9999999	The 1-way peak auto travel distance between the residence and usual work parcels (a real number of miles, -1 if no usual work location. Could be optional as input, used as output for calibration.)

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
pstyp	0 - 2	Worker type (0=non-student, 1=full time student, 2=part time student if known – part-time distinction not used in DaySim code)
pspcl	-1 - 9999999	Usual school location parcel ID. -1 for none/missing, otherwise must be a valid parcel ID present in the Parcel file.
pstaz	-1 - 9999999	Usual school location zone ID. (This could be optional as input, as the Parcel file has the parcel-zone correspondence.)
psautime	-1 - 9999999	The 1-way peak auto travel time between the residence and usual school parcels (a real number of minutes, -1 if no usual school location. Could be optional as input, used as output for calibration.)
psaudist	-1 - 9999999	The 1-way peak auto travel distance between the residence and usual school parcels (a real number of miles, -1 if no usual school location. Could be optional as input, used as output for calibration.)
puwmode	-1 – 9	The usual mode used to work. (This is optional, as it is a placeholder for possible models that may be added to DaySim in the future.)
puwarrp	-1 – 9	The usual arrival period at work. (This is optional, as it is a placeholder for possible models that may be added to DaySim in the future.)
puwdepp	-1 – 9	The usual departure period from work. (This is optional, as a placeholder for possible models that may be added to DaySim in the future.)
ptpass	0 – 1	Transit pass ownership (0=no, 1=yes. This is predicted by DaySim, so could be an optional input in application mode.)
ppaidprk	0 – 1	Worker has to pay to park at work (0=no, 1=yes. This is predicted by DaySim, so could be an optional input in application mode.)
pdiary	0 – 1	Survey respondent used their diary? (0=no, 1=yes. This is only relevant for survey data in estimation, so could be optional in application mode.)

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
pproxy	0 – 1	Survey responses by proxy? (1=no, 2=yes, 3=by mail, 9=missing. This is only relevant for survey data in estimation, so could be optional in application mode.)
psexpfac	Real >= 0	The expansion factor for the person – a non-negative real number. (In application mode, this could be optional, since it is set equal to hhexpfac)

Zone Index File

This is often referred to as the "taz index" file. Its main purpose is to indicate to DaySim which zone numbers are valid. If there are gaps in the zone numbering (unused zone numbers), then this file is used to set up a mapping from the nominal zone numbers to an internal zone numbering that is used to compress the amount of memory used to store zone-to-zone skim matrices in memory. The file is ASCII delimited with a header record and located at "1_Inputs\8_DaySim\01_TAZ_Index\tulare_taz_indexes.dat". Table 52 presents format of the file.

TABLE 52: ZONE INDEX FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Zone_ID	1 – 9999999	The zone ID number used in the network software that produces skims. Values must be unique positive integers, in ascending order.
Zone_ordinal	1 – 9999999	A zone index number internal to DaySim, which is mapped to Zone_id. Values must be unique positive integers in ascending order. Value will generally begin at 1 with no gaps in numbering, although gaps are allowed.
Dest_eligible	0 or 1	A binary variable indicating whether or not a zone is eligible as a destination in Daysim. Zones that are not eligible as destinations are external zones or special park and ride lot zones.
External	0 – 99	This variable was originally used as a binary variable to indicate external zones, but was not used in the DaySim code, so it is

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
		now used to indicate a District mapping of the zones. Including a district mapping is optional – only necessary if ODShadowPricing is used, or other region-specific variables that are District-based
xcoord	1 – 9999999	**OPTIONAL** –only needed if Transit Stop Areas are used for transit skims. The x coordinate of the zone centroid, in integer length units (typically SPF).
ycoord	1 – 9999999	**OPTIONAL** –only needed if Transit Stop Areas are used for transit skims. The x coordinate of the zone centroid, in integer length units (typically SPF).

Workers IXXI Fractions

This is a file that DaySim uses for the work location model, to set the percent of workers living in each zone that work outside the region, and the percent of jobs in each zone that are filled by workers living outside the region. DaySim does not select a usual workplace or simulate internal home-work tours for the I-X fraction of workers, and makes the X-I fraction of jobs unavailable as usual work locations for region residents. Both fractions tend to be larger towards the edges of modeled regions.

The file is ASCII delimited without a header record and located at "1_Inputs\8_DaySim\05_ixxi\Tulare_worker_ixxifractions.dat". Table 53 presents format of the file.

TABLE 53: WORKERS IXXI FRACTIONS FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Zone_ID	1 - 9999999	The zone ID number. Values must be unique positive integers, in ascending order. There must be the same number of records in the same order as in the raw Zone file.
Worker_IXFrac	0.00 - 1.00	The fraction of workers living in the zone that have a usual work location outside the modeled region (not in a destination-eligible zone)

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Jobs_XIFrac	0.00 - 1.00	The fraction of jobs in the zone that are filled by workers living outside of the region (not in a destination-eligible zone)

Park and Ride File

This file is for park and ride lot/path choice in DaySim. It is **optional**, and not needed if either (a) the park and ride mode is not included in the model for the region, or (b) the park and ride skim matrices are prepared in the network software rather than using the path choice in DaySim.

The file is ASCII delimited with a header record and located at "1_Inputs\8_DaySim\10_ParkAndRide\p_r_Nodes_2022.dat". Table 54 presents format of the file.

TABLE 54: PARK AND RIDE FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Node_ID	1 - 9999999	The park and ride node ID number. Values must be unique positive integers, in ascending order.
Zone_ID	1 - 9999999	The zone that the lot is associated in. Must be a zone ID present in the raw Zone file. May be either an internal (destination-eligible zone) or a special park and ride zone, which allows more accurate zone-to-zone skims for park and ride
xcoord	1 – 9999999	The x coordinate of the lot, in integer length units (typically SPF).
ycoord	1 – 9999999	The y coordinate of the lot, in integer length units (typically SPF).
capacity	0 – 9999999	The number of parking spaces in the lot. A value of 0 makes the lot unavailable as a choice option, but can be useful for including a lot as a placeholder for future/alternative scenarios
cost	0 – 9999999	The daily parking cost for the lot, in hundredths of monetary units (typically this is cents)

Node-to-Node Distance File

The node-to-node distance file is an input to the DaySim buffer tool. The ABM Cube process automatically generates maz-to-maz walk skim in a text format as described in Table 55. Other input, INPUT_NODE.csv, required for the buffer tool is also generated by the Cube process. With these two distance related inputs, the buffer tool generates a binary version of the distance file which is then used by DaySim for short trip distance calculations. In addition, the buffer tool generates a maz to node id correspondence, maz_node_{year}.dat, and an index file, {node_distance_file_index.txt} for DaySim to use node to node distance data.

TABLE 55: NODE TO NODE DISTANCE FILE FORMAT

FIELD	DESCRIPTION
RECORD_ID	Record id number
FROM_NODE_ID	Origin node id
TO_NODE_ID	Destination node id
DISTANCE	Shortest path distance in miles

Intersection Data File (Buffer Tool)

This file is an input to the buffer tool that generates buffered micro-zone file for DaySim. A unique measure of urban form that DaySim incorporates is the number of intersections or nodes of different types around a micro-zone. These intersection types include, dead-ends (1 link), T-intersections (3-links), and tradition intersections (4+ links), and help characterize the pattern of urban development.

The intersection data is in a CSV file and resides at "1_Inputs\8_DaySim\02_Parcel\intersection_2022_nohwys.csv". Table 56 presents contents of the file.

TABLE 56: INTERSECTION DATA FILE FORMAT

FIELD	DESCRIPTION
Id	Intersection ID number
Links	Number of links associated with node
xcoord_p	X coordinate – state plane feet
ycoord_p	Y coordinate – state plane feet

This file is automatically generated in the input processing step.

Transit Stops File (Buffer Tool)

This file is an input to the buffer tool that generates buffered micro-zone file for DaySim. In addition to using zone-level information on access times to transit, DaySim also incorporates detailed micro-zone-level information on the distance to transit by transit sub-mode. This file is created from transit network by extracting stops on transit routes.

The file is located at "1_Inputs\8_DaySim\02_Parcel\stops_transit_2022.csv". Table 57 summarizes the contents of this file.

TABLE 57: TRANSIT STOPS FILE FORMAT

FIELD	DESCRIPTION
Id	Transit stop ID number
Mode	Transit sub-mode code 1=local bus 2=express bus 3=commuter rail 4=ferry (BRT) 5=light rail
xcoord_p	X coordinate – state plane feet
ycoord_p	Y coordinate – state plane feet

When developing or updating forecast year or project alternative networks, careful consideration should be given to the location of individual bus stops. In addition to the bus stops located in urban areas of the county, it is also necessary to incorporate bus stop locations for rural transit routes into the model. This fine-grained information is used by DaySim to develop micro-zone-level estimates of access time to transit. Ideally, forecast year transit networks would include a similar level of detail. Forecast year travel model transit network do include information on stop locations as part of the network coding. However, these stop locations are constrained by the coarser travel model roadway networks, and thus may tend to make transit access times appear longer by not including stops that are on major roads included in the roadway network. This file is automatically generated in the input processing module under "DaySim Input Prepper"

Parks/Open Spaces Data Stops File

This file is an input to the buffer tool that generates buffered micro-zone file for DaySim. A unique feature of DaySim is that it incorporates measures of access to publicly accessible open space. Although open space is clearly an attractor of travel for recreational, social and other purposes, typically open space is not included in travel models because the traditional "size" measures used as input to travel models, such as employment and population, are not good indicators of the attractiveness of open space (i.e. a popular park will often have no employment and no population). The open space measures incorporated into DaySim capture the proximity of each micro-zone to the nearest open space, and the amount of open space present in the buffer area around the micro-zone.

The open space park file resides at "1_Inputs\8_DaySim\02_Parcel\openspace_active_tulare.csv". Contents of the file are presented in Table 58.

TABLE 58: OPEN SPACE DATA FILE FORMAT

FIELD	DESCRIPTION
Id	Open space ID number
xcoord_p	X coordinate – state plane feet
ycoord_p	Y coordinate – state plane feet
Sqft	Open space grid cell size in sq ft

The individual records in the open space file are based on converting a shapefile of regional, publicly accessibility open spaces into a smaller set of open space grid cells.

Appendix C provides details of the procedure to create this input file.

Coefficient Files

Coefficient for each model is a separate text file (.F12 format) that can be edited by the user for calibration purpose. There are a total of 23 files corresponding to all the models described in section 5.9. All coefficient files are in the same directory at 1_Inputs\8_DaySim\07_Coefficients. For example, the auto ownership model coefficient is a file named AutoOwnershipCoefficients_SACOG-v1.5.F12. Figure 32 provides an example of a coefficient file.

```
Auto availability auto27.ALO
Created by ALOGIT version 4                                    11:16:44 on 3 Apr 12
END
    1 Beta00001  F   -3.74713956271        .485432341916
    2 Beta00002  F   -2.12971158522        .120667788954
    3 Beta00003  F   -3.96633437255        .181623902077
    4 Beta00004  F   -11.21939263133       .347582961233
    5 Beta00005  F   -5.01252239349        .485933923292
    6 Beta00006  F   -1.85637454651        .171204853891
    7 Beta00007  F   -1.39642394328        .108778102305
    8 Beta00008  F   -2.39429368035        .162199862000
    9 Beta00009  F   -4.92018331565        .687312315918
   10 Beta00010  F   -2.29401614977        .261316908165
   11 Beta00011  F   -1.44463523641        .204749856644
   12 Beta00012  F   -0.81535992724        .203518529877
   13 Beta00013  F   -5.32165437066        1.22007612531
   14 Beta00014  F   -1.12612768117        .393371210208
   15 Beta00015  F   -1.63721987659        .302144582330
   16 Beta00016  F   -0.59991414111        .302706275384
   18 Beta00018  F   0.39953921787         .124608088395
   19 Beta00019  F    .699030446312       .402977980122
   20 Beta00020  F    .324854469598       .204037451392
   22 Beta00022  F   -.438561287720       .318213047774
   24 Beta00024  F    .239019734309       .118684885778
   25 Beta00025  F   -.301156533677       .157265779465
   26 Beta00026  F   -.563735159108       .253286330074
   28 Beta00028  F    .319598840569       .228619271418
   29 Beta00029  F    .570686967046       .282854170991
```

FIGURE 32: COEFFICIENT FILE EXAMPLE

Roster File

The Roster file is a very convenient and flexible way to define which skim matrices are used for all modes/path types and level-of-service (LOS) variables, for all times of day. The roster file is here: “1_Inputs\8_DaySim\06_Roster\roster_mz.csv”.

The Roster file must also be in CSV format and must include the columns listed below and shown in the example below.

- **#variable**: A variable label, as referred to in DaySim code
- **mode**: A mode label, as referred to in the DaySim code and present in the RosterCombinations file
- **path-type**: A path type label, as referred to in the DaySim code, and the mode/path type combination must be TRUE in the RosterCombinations file In the example, the “walk”,

"bike", "sov", "hov2" and "hov3" are input only for the "full-network" path type, while separate "transit" skims are input for five different path types.

- **vot-group**: A value of time class, with boundaries set in the configuration file. Valid names are very-low, low, medium, high, very-high, or all.
- **start-minute** and **end-minute:** The time period for which the skim matrix applies, in minutes past midnight. For example, 0-1439 is the entire day, and 360-539 is 6:00 am to 8:59 am. For each variable/mode/path-type/vot-group combination, the skims should cover all minutes from 0 to 1439. An example is the last 5 lines above for toll, for 5 time periods. The last period 1110-179 spans midnight, and is 6:30 pm to 2:59 am.
- **length:** The "zone" system used for the matrix. "maxzone" uses Zone, "transitstop" uses TransitStopArea, "null" just returns a value of 0 instead of reading in a matrix (in which case the "file-type" and "name" columns should also be "null").
- **file-type**: The format of the file. Valid types are:
  - **text-ij:** Text files with a record for each I-J zone pair that can contain more than 1 skim variable. Column 1 of the text file is always the I zone and column 2 the J zone.
  - **transcad**: Native binary format written by TransCAD-requires a valid TransCAD license to be installed when running.
  - **cube**: Native binary format written by Cube. Requires a valid Cube license to be installed when running.
  - **emme**: Native binary format written to EMME databanks.
  - **visum-binary**: Native binary format written by Visum.
  - **hdf5**: HDF5 format, which can be written by various network packages or converters.
  - **omx**: Open Matrix format (modified HDF5), which can be written by various network packages or converters.
  - **bin:** A custom DaySim binary format, which is fastest to load, but requires pre-processing of the matrices.
  - **null:** Returns a value of 0. ("length" and "name" should also be set to "null")
- **name**: The matrix file name (plus the table name for HDF5 or OMX files). The directory path is assumed to be the same as for the Roster file. Note that different roster rows may refer to the same file—such as the first four rows in the example using "walkSkim.h5/1". In that case, the same matrix is used for multiple variables, but only read and stored in memory once. In the example, the toll matrices use the same table number, but different file names for the five time periods.

- **field**: The matrix number on the file for the particular variable. For “text-ij”, it is the column number. For “cube” it is the Cube matrix number.
- **transpose**: This indicates that the origin and destination zones for the matrix should be “switched” and the transpose used. For example, the transpose of the AM peak transit matrices can be used to represent the PM peak period.
- **blend-variable**: This is the variable to use for “short distance blending”. It is only relevant for the walk, bike and auto modes, but not for transit. In practice, this should always be set as “distance”, which is what the DaySim code assumes.
- **blend-path-type**: This is the path type to use for “short distance blending”. If it is set to “null”, then DaySim assumes that the “blend-path-type” is the same as the “path-type” entry on the same row. It would be possible to use a different path type for the same mode if no “distance” matrix was available for “path type”, but in almost all cases, the user should leave this as “null”
- **factor**: This allows one variable to be set as a factored version of another variable. In the example below, “walk” “time” is set to use the same matrix as “walk” “distance”, but with a factor of 20, which assumes a walk speed of 20 minutes per mile. Similarly, “bike” “time” is set to use the same matrix as “bike” “distance”, but with a factor of 6, which assumes a bike speed of 6 minutes per mile. If the entry is “null”, the default factor is 1.0.
- **scaling**: This last setting causes some confusion, so deserves careful explanation. DaySim stores all matrix values in memory as 2-byte unsigned integers, which can take values between 0 and roughly 65,000. Those values are assumed to be hundredths of miles for distance, hundredths of minutes for times, hundredths of dollars (cents) for costs, and hundredths of boardings for transit boardings or transfers. So, the maximum skim values that can be stored in memory are roughly 650 miles, minutes, dollars, or boardings, which is sufficient for regional models. (Any values larger than this are capped at the maximum value.)

In most cases, the input matrices are in units of miles, minutes, or dollars. In that case, “scaling” should be set to TRUE, and DaySim will scale the values by 100 when storing them in memory, and then “unscale” them back to the original units when accessing them from memory. That is done for most of the walk, bike, and auto variables in the example, as well as transit times and boardings (“nboard”).

In the example, the toll and fare matrices were already in units of cents rather than dollars, so no scaling is necessary, and “scaling” is FALSE for those variables. However, the DaySim code assumes that these costs are in dollars, so a factor of 0.1 is necessary to convert the cost in cents to a cost in dollars. In general, the rules are:

In summary, if the matrices are in units of miles, minutes or dollars, the proper setting of "scaling" is "TRUE" and "factor" is "null" (unless converting walk distance to walk time, or a similar conversion).

If the matrices are in cents, or they are already pre-scaled to hundredths of miles or hundredths of minutes, the proper setting of "scaling" is "FALSE" and "factor" is "0.01".

Roster Combinations File

The RosterCombinations file is used together with the Roster file and tells which mode-path type combinations are valid in the Roster file. A "path type" is essentially a "submode" in DaySim, such as tolled versus non-tolled networks for auto modes or local bus versus light rail (plus optional bus) networks for transit. The roster combinations file is here: "1_Inputs\8_DaySim\06_Roster\roster_combinations.csv".

The RosterCombinations file must be in .CSV format and is a matrix where the columns give the vaild mode labels for the Roster entries, and the rows give the valid "path type" labels for the Roster entries.

The format is presented in Table 59. A TRUE entry means that the mode/path type combination is valid for the matrix entries in the Roster, and a FALSE entry means that it is not valid. A TRUE entry does not mean that the path type is required, however, so using the file below would not require separate "no-tolls" matrices for the auto modes, or separate "ferry" matrices for transit – but it would allow them.

A few other things to note in this example…

There is a "park-and-ride" mode listed, but that does not require that the user provide skims for park and ride. (That is an option, but DaySim can also use its internal lot/path choice to create park and ride paths from the "sov" and "transit" skims.)

All of the path types are FALSE for the "school-bus" mode. Typically, the school bus mode uses the "hov3" skims in the models, so no separate "school-bus" skims are listed in the Roster.

The "other" mode is basically a placeholder, not currently used in the models. For BKR, we may add a "taxi-uber" mode, but that will use "hov2" skims, so all of the path types could remain FALSE.

Some DaySim users let the network software choose the best transit path, so only use a single path type. In that case, they often list the path type for all of the "transit" skims as "local-bus", but it would also be possible to list them all as "full-network", and change the RosterCombinations file so that only the "full-network" row is TRUE under transit, and all of the other rows are FALSE.

A user can add or substituted different path type names, and even different mode names, but that could require substantial corresponding changes to the DaySim code—essentially every

call to PathTypeModel includes a mode label and path type label, and that combination must be TRUE in the RosterCombinations file.

TABLE 59: ROSTER COMBINATIONS FILE FORMAT

#	WALK	BIKE	SOV	HOV2	HOV3	TRANSIT	PARK-AND-RIDE	SCHOOL-BUS	OTHER
full-network	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
no-tolls	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
local-bus	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE
light-rail	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE
premium-bus	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE
commuter-rail	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE
ferry	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE

DaySim Configuration File

The configuration file is the main user input control file for DaySim. This file is created automatically before a DaySim run. As mentioned previously, for each feedback loop DaySim is run for four iterations. The first three iterations of DaySim run only long-term choice models (work and school location choice) to get stable shadow prices. The last iteration runs all models (long-term and short-term choice models). In all, each feedback loop generates two sets of properties files under the DaySim folder in a scenario directory: configuration.properties and configuration_shadow_price.properties.

Appendix D describes various settings available to configure a DaySim model run.

5.6 OUTPUTS

DaySim

The outputs generated from a DaySim run are stored inside a scenario folder here: “Scenarios\TU22_BASE\11_DaySim”. This section describes all necessary DaySim outputs, including the intermediate outputs generated by the buffer tool which are then used in DaySim.

Buffered Micro-zone File

The buffered micro-zone file is an output from the buffer tool and used in a DaySim run. This is a space-delimited delimited ASCII text format file (.dat) with one row of data per micro-zone and is the primary file used to maintain socioeconomic information. The file begins with several fields identifying the micro-zone and describing the physical location and size of the micro-zone. Then

contains fields that describe the quantity of housing, school enrollment, and employment around the micro-zone using logistic distance decay curves with 1/8th mile and quarter mile inflection points. These two distance decay curves with 1/8th and quarter mile inflection points result in "buffer 1" and "buffer 2" variables respectively which are referred to in the file format table below. In addition, the micro-zone file contains information about urban form and the transportation system on and close to the micro-zone, including the proximity to transit stops and the price and supply of parking.

Table 60 presents a list of fields available in the buffered micro-zone file.

TABLE 60: BUFFERED MICRO-ZONE FILE

FIELD	DESCRIPTION
Id	Micro-zone ID number
xcoord_p	X coordinate – state plane feet
ycoord_p	Y coordinate – state plane feet
sqft_p	Area – square feet
taz_p	TAZ number
lutype_p	Park area (square feet)
hh_p	households on micro-zone
stugrd_p	grade school enrollment on micro-zone
stuhgh_p	high school enrollment on micro-zone
stuuni_p	university enrollment on micro-zone
empedu_p	educational employment on micro-zone
empfoo_p	food employment on micro-zone
empgov_p	government employment on micro-zone
empind_p	industrial employment on micro-zone
empmed_p	medical employment on micro-zone
empofc_p	office employment on micro-zone
empret_p	retail employment on micro-zone

FIELD	DESCRIPTION
empsvc_p	service employment on micro-zone
empoth_p	other employment on micro-zone
emptot_p	total employment on micro-zone
parkdy_p	offstreet daily parking on micro-zone
parkhr_p	offstreet hourly parking on micro-zone
Ppricdyp	offstreet daily parking price
Pprichrp	offstreet hourly parking price
hh_1	households within buffer 1
stugrd_1	grade school enrollment within buffer 1
stuhgh_1	high school enrollment within buffer 1
stuuni_1	university enrollment within buffer 1
empedu_1	educational employment within buffer 1
empfoo_1	food employment within buffer 1
empgov_1	government employment within buffer 1
empind_1	industrial employment within buffer 1
empmed_1	medical employment within buffer 1
empofc_1	office employment within buffer 1
empret_1	retail employment within buffer 1
empsvc_1	service employment within buffer 1
empoth_1	other employment within buffer 1
emptot_1	total employment within buffer 1
parkdy_1	offstreet daily parking within buffer 1
parkhr_1	offstreet hourly parking within buffer 1
ppricdy1	average offstreet daily parking price within buffer 1

FIELD	DESCRIPTION
pprichr1	average offstreet hourly parking price within buffer 1
nodes1_1	number of single link street nodes (dead ends) within buffer 1
nodes3_1	number of three-link street nodes (T-intersections) within buffer 1
nodes4_1	number of 4+ link street nodes (traditional 4-way +) within buffer 1
tstops_1	number of transit stops within buffer 1
nparks_1	number of open space parks within buffer 1
aparks_1	open space area in swuare feet within buffer 1
hh_2	households within buffer 2
stugrd_2	grade school enrollment within buffer 2
stuhgh_2	high school enrollment within buffer 2
stuuni_2	university enrollment within buffer 2
empedu_2	educational employment within buffer 2
empfoo_2	food employment within buffer 2
empgov_2	government employment within buffer 2
empind_2	industrial employment within buffer 2
empmed_2	medical employment within buffer 2
empofc_2	office employment within buffer 2
empret_2	retail employment within buffer 2
empsvc_2	service employment within buffer 2
empoth_2	other employment within buffer 2
emptot_2	total employment within buffer 2
parkdy_2	offstreet daily parking within buffer 2
parkhr_2	offstreet hourly parking within buffer 2
ppricdy2	average offstreet daily parking price within buffer 2

FIELD	DESCRIPTION
pprichr2	average offstreet hourly parking price within buffer 2
nodes1_2	number of single link street nodes (dead ends) within buffer 2
nodes3_2	number of three-link street nodes (T-intersections) within buffer 2
nodes4_2	number of 4+ link street nodes (traditional 4-way +) within buffer 2
tstops_2	number of transit stops within buffer 2
nparks_2	number of open space parks within buffer 2
aparks_2	open space area in swuare feet within buffer 2
dist_lbus	distance to nearest local bus stop from micro-zone
dist_ebus	distance to nearest express bus stop from micro-zone
dist_crt	distance to nearest commuter rail stop from micro-zone
dist_fry	distance to nearest ferry stop from micro-zone
dist_lrt	distance to nearest light rail stop from micro-zone
dist_park	distance to nearest park from micro-zone

Tour File (_tour.tsv)

This file has tour-level variables for all persons predicted by a DaySim run. The file is ASCII delimited with a record and is stored here: “Scenarios\TU22_BASE\11_DaySim_tour.tsv”. Table 61 presents a list of fields available in the tour file.

TABLE 61: TOUR FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
id		Internal DaySim record ID
person_id		Internal DaySim record ID
person_day_id		Internal DaySim record ID
hhno	1 - 9999999	The household ID number
pno	1 – 99	The person sequence number within the household

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
day	1 – 99	The survey day sequence, if using multi-day survey data, or if DaySim were programmed to simulate multiple days per household (which is not a current feature).
tour	1 – 99	The tour sequence within the person-day
jtindex	0 – 99	Links to the sequence number of the tour in the JointTour file records for the HouseholdDay. (Only relevant for the H version of the models.)
parent	0 - 99	If it is a work-based subtour, the “tour” sequence number of the “parent” work tour, otherwise 0.
subtours	0 - 99	For home-based work tours, the number of work-based subtours made from the work activity of that tour.
pdpurp	1 - 9	The tour primary destination purpose (1=work, 2=school, 3=escort, 4=personal business (& medical), 5=shopping, 6=meal, 7=social (& recreation), 8=recreation (H version only) 9=medical (H version only)
tlvorig	0 - 1439	The time leaving the (sub)tour origin, in minutes after midnight (or hours*100+minute for estimation mode)
tardest	0 - 1439	The time arriving at the (sub)tour destination, in minutes after midnight (or hours*100+minute for estimation mode)
tlvdest	0 - 1439	The time leaving the (sub)tour destination, in minutes after midnight (or hours*100+minute for estimation mode)
tarorig	0 - 1439	The time arriving back at the (sub)tour origin, in minutes after midnight (or hours*100+minute for estimation mode)
toadtyp	1 - 5	Tour origin address type (1=home, 2=usual work location, 3=usual school location, 4=other location in region, 5=out of region/missing (survey data only)

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
tdadtyp	1 - 5	Tour destination address type (1=home, 2=usual work location, 3=usual school location, 4=other location in region, 5=out of region/missing (survey data only)
topcl	-1 - 9999999	Tour origin parcel ID. Must be a valid parcel ID present in the Parcel file.
totaz	-1 - 9999999	Tour origin zone ID. Must be a valid zone ID present in the Zone file.
tdpcl	-1 - 9999999	Tour destination parcel ID. Must be a valid parcel ID present in the Parcel file.
tdtaz	-1 - 9999999	Tour destination zone ID. Must be a valid zone ID present in the Zone file.
tmodetp	1 - 8	Tour main mode type (1=walk, 2=bike, 3=sov, 4=hov 2, 5=hov 3+, 6=walk to transit, 7=park and ride, 8=school bus, 9=TNC, 10=other – survey only)
tpathtp	1 - 8	Tour main mode path type (1=full network, 2=no-toll network, 3=local bus, 4=light rail, 5=premium bus, 6=commuter rail, 7=ferry)
tautotime	-1 - 9999999	The one-way auto travel time between the origin and destination (a real number of minutes)
tautocost	-1 - 9999999	The one-way auto toll cost between the origin and destination (a real number of dollars)
tautodist	-1 - 9999999	The one-way auto travel distance between the origin and destination (a real number of miles)
tripsh1	1 - 99	The number of trips segments on the half tour to the destination.
tripsh2	1 - 99	The number of trips segments on the half tour from the destination.

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
phtindx1	0 - 99	Links to the sequence number of the first half tour in the PartialHalfTour file records for the HouseholdDay. (Only relevant for the H version of the models.)
phtindx2	0 - 99	Links to the sequence number of the second half tour in the PartialHalfTour file records for the HouseholdDay. (Only relevant for the H version of the models.)
fhtindx1	0 - 99	Links to the sequence number of the first half tour in the FullHalfTour file records for the HouseholdDay. (Only relevant for the H version of the models.)
fhtindx2	0 - 99	Links to the sequence number of the second half tour in the FullHalfTour file records for the HouseholdDay. (Only relevant for the H version of the models.)
toexpfac	Real >= 0	The expansion factor for the tour – a non-negative real number. (Is set equal to hhexpfac in application mode)

Trip File

This file is an output from a DaySim run and has trip-level variables for all persons predicted by a DaySim run. The file is ASCII delimited with a record and is stored here: “Scenarios\ TU22_BASE \11_DaySim_trip.tsv”. Table 62 presents a list of fields available in the trip file.

TABLE 62: TRIP FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Id		Internal DaySim record ID
Tour_id		Internal DaySim record ID
Hhno	1 - 9999999	The household ID number. Values must be unique positive integers, and should be in ascending order. Must be present in the Household file.

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Pno	1 – 99	The person sequence number within the household. Values must be unique positive integers within a household, and match the hhno/pno combinations in the Person file
Day	1 – 99	The survey day sequence, if using multi-day survey data, or if DaySim were programmed to simulate multiple days per household (which is not a current feature).
Tour	1 – 99	The tour sequence within the person-day. Must match a tour present for the person-day in the Tour file.
Half	1 –2	The half tour (1=to the destination, 2=from the destination)
Tseg	1 - 99	The trip sequence number within the half tour.
Tsvid	1 - 99	Links to a travel survey trip ID (not relevant in application mode)
Opurp	0 – 10	The purpose at the trip origin (0=home, 1=work, 2=school, 3=escort, 4=personal business (& medical), 5=shopping, 6=meal, 7=social (& recreation), 8=recreation (H version only) 9=medical (H version only), 10=change mode at a park and ride lot
Dpurp	0 – 10	The purpose at the trip destination (0=home, 1=work, 2=school, 3=escort, 4=personal business (& medical), 5=shopping, 6=meal, 7=social (& recreation), 8=recreation (H version only) 9=medical (H version only), 10=change mode at a park and ride lot
Oadtyp	1 – 6	Trip origin address type (1=home, 2=usual work location, 3=usual school location, 4=other location in region, 5=out of region/missing (survey data only), 6=inserted change mode location for park and ride
Dadtyp	1 – 6	Trip dest. address type (1=home, 2=usual work location, 3=usual school location, 4=other location in region, 5=out of region/missing (survey data only), 6=inserted change mode location for park and ride

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Opcl	-1 - 9999999	Trip origin parcel ID. Must be a valid parcel ID present in the Parcel file.
Otaz	-1 - 9999999	Trip origin zone ID. Must be a valid zone ID present in the Zone file.
Dpcl	-1 - 9999999	Trip destination parcel ID. Must be a valid parcel ID present in the Parcel file.
Dtaz	-1 - 9999999	Trip destination zone ID. Must be a valid zone ID present in the Zone file.
Mode	1 - 8	Trip mode (1=walk, 2=bike, 3=sov, 4=hov 2, 5=hov 3+, 6=walk to transit, 7=park and ride, 8=school bus, 9=TNC, 10=other – survey only)
Pathtype	1 - 8	Trip path type (1=full network, 2=no-toll network, 3=local bus, 4=light rail, 5=premium bus, 6=commuter rail, 7=ferry)
Dorp	0 - 999	For auto trips, 1=driver, 2=passenger; for transit trips, is set to the total walk access+egress time, in integer minutes
Deptm	0 – 1439	The trip departure time, in minutes after midnight (or hours*100+minute for estimation mode)
Arrtm	0 – 1439	The trip arrival time, in minutes after midnight (or hours*100+minute for estimation mode)
Endacttm	0 – 1439	The end time of the destination activity, in minutes after midnight (or hours*100+minute for estimation mode)
Travtime	-1 - 9999999	The travel time by the trip mode and path type (a real number of minutes)
Travcost	-1 - 9999999	The travel cost by the trip mode and path type (a real number of dollars)
Travdist	-1 - 9999999	The network distance between the trip origin and destination (a real number of miles, SOV distance used for transit trips)

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Trexpfac	Real >= 0	The expansion factor for the trip – a non-negative real number. (Is set equal to hhexpfac in application mode)

Household and Household Day Files

These files are outputs from a DaySim run. The household and household day output files append the model predicted information into the household input files. Household output file is in the same format as the input file in Table 50. The household file is here: "Scenarios\ TU22_BASE \11_DaySim_household.tsv"

The household day output file is here: "Scenarios\ TU22_BASE \11_DaySim_household_day.tsv". Table 63 presents the format of the file. Table 63 presents a list of fields available in the household day file.

TABLE 63: HOUSEHOLD DAY FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
id		Internal DaySim record ID
hhno	1 - 9999999	The household ID number. Values must be unique positive integers, and should be in ascending order. Must be present in the Household file.
day	1 – 99	The survey day sequence, if using multi-day survey data, or if DaySim were programmed to simulate multiple days per household (which is not a current feature).
dow	1 - 7	The day of the week, which is relevant for survey data, but is not currently used in the DaySim models.
jttours	0 - 99	The number of fully joint tour records output for the household. (Is set only in the H version of the DaySim models.)
phtours	0 - 99	The number of partially joint half tour records output for the household. (Is set only in the H version of the DaySim models.)

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
fhtours	0 - 99	The number of fully joint half tour records output for the household. (Is set only in the H version of the DaySim models.)
hdexpfac	Real >= 0	The expansion factor for the household-day – a non-negative real number. (Is set equal to hhexpfac in application mode)

Person and Person Day Files

The person output file is in the same format as the input person file in Table 51. The person file is here: “Scenarios\TU22_BASE \11_DaySim_person.tsv”

The person-day output file has the person-day-level variables from a DaySim run. The file is here: “Scenarios\TU22_BASE \11_DaySim_person_day.tsv”. The format of the file is shown in Table 64.

TABLE 64: PERSON DAY FILE FORMAT

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Id		Internal DaySim record ID
person_id		Internal DaySim record ID
household_day_id		Internal DaySim record ID
Hhno	1 - 9999999	The household ID number. Values must be unique positive integers, and should be in ascending order. Must be present in the Household file.
Pno	1 – 99	The person sequence number within the household. Values must be unique positive integers within a household, and match the hhno/pno combinations in the Person file
Day	1 – 99	The survey day sequence, if using multi-day survey data, or if DaySim were programmed to simulate multiple days per household (which is not a current feature).

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Beghom	0 – 1	A flag if the survey diary day begins at home. (Not currently relevant for application mode, where all days are simulated to begin at home.)
Endhom	0 – 1	A flag if the survey diary day ends at home. (Not currently relevant for application mode, where all days are simulated to end at home.)
Hbtours	0 – 99	The total number of home-based tour records predicted for the person-day.
Wbtours	0 – 99	The total number of work-based subtour records predicted for the person-day.
Uwtours	0 – 99	The total number of home-based work tours predicted to go to the usual workplace in the person-day
Wktours	0 – 99	The number of home-based work tours predicted in the person-day
Sctours	0 – 99	The number of home-based school tours predicted in the person-day
Estours	0 – 99	The number of home-based escort tours predicted in the person-day
Pbtours	0 – 99	The number of home-based personal business tours predicted in the person-day (also includes medical tours in the Default models)
Shtours	0 – 99	The number of home-based shopping tours predicted in the person-day
Mltours	0 – 99	The number of home-based meal tours predicted in the person-day
Sotours	0 – 99	The number of home-based social tours predicted in the person-day (also includes recreational tours in the Default models)
Retours	0 – 99	The number of home-based recreation tours predicted in the person-day. (Is only predicted by the H version of the models.)
Metours	0 – 99	The number of home-based medical tours predicted in the person-day. . (Is only predicted by the H version of the models.)
Wkstops	0 – 99	The number of home-based work stops predicted in the person-day
Scstops	0 – 99	The number of home-based school stops predicted in the person-day

HEADER LABEL	VALID VALUES	DESCRIPTION, COMMENTS
Esstops	0 – 99	The number of home-based escort stops predicted in the person-day
Pbstops	0 – 99	The number of home-based personal business stops predicted in the person-day (also includes medical stops in the Default models)
Shstops	0 – 99	The number of home-based shopping stops predicted in the person-day
Mlstops	0 – 99	The number of home-based meal stops predicted in the person-day
Sostops	0 – 99	The number of home-based social stops predicted in the person-day (also includes recreational stops in the Default models)
Restops	0 – 99	The number of home-based recreation stops predicted in the person-day. (Is only predicted by the H version of the models.)
Mestops	0 – 99	The number of home-based medical stops predicted in the person-day. (Is only predicted by the H version of the models.)
wkathome	0 – 1439	The number of minutes spent working at home during the day. (Is only predicted by the H version of the models.)
Pdexpfac	Real >= 0	The expansion factor for the household-day – a non-negative real number. (Is set equal to hhexpfac in application mode)

Network Skims

The model produces three sets of skims: highway, transit, and non-motorized. The skims are under “Scenarios\TU22_BASE \01_Skims”.

Highway

The highway skims are for two time periods (PK: peak and OK: off-peak) and three modes (D1: drive alone, S2: shared-ride 2, and S3: shared-ride 3+). In all, six highway skims are output as {Scenario_Name}_SKM_{tod}_{mode}.mat, with each containing attributes as shown in Table 65.

TABLE 65: HIGHWAY SKIM ATTRIBUTES

SKIM INDEX	ATTRIBUTE	DESCRIPTION
1	GENTIME_0Veh	Generalized time for zone pair for low value-of-time group
2	TIME_0Veh	Congested travel time (mins) for zone pair for low value-of-time group
3	DIST_0Veh	Travel distance (miles) for zone pair for low value-of-time group
4	COST_0Veh	Travel cost for zone pair for low value-of-time group
5	GENTIME_1Veh	Generalized time for zone pair for medium value-of-time group
6	TIME_1Veh	Congested travel time (mins) for zone pair for medium value-of-time group
7	DIST_1Veh	Travel distance (miles) for zone pair for medium value-of-time group
8	COST_1Veh	Travel cost for zone pair for medium value-of-time group
9	GENTIME_2Veh	Generalized time for zone pair for high value-of-time group
10	TIME_2Veh	Congested travel time (mins) for zone pair for high value-of-time group
11	DIST_2Veh	Travel distance (miles) for zone pair for high value-of-time group
12	COST_2Veh	Travel cost for zone pair for high value-of-time group

Transit

The transit skims are for two time periods (PK: peak and OK: off-peak), two sub-modes (B: bus and R: rail), and two access modes (W: walk and D: drive). In all eight transit skims are output as {scenario_name}_SKM_{tod}_T{access_mode}{mode}.mat, with each containing attributes as shown in Table 66.

TABLE 66: TRANSIT SKIM ATTRIBUTES

SKIM INDEX	SKIM ATTRIBUTE	DESCRIPTION
1	IVTT	In-vehicle travel time (mins)
2	DRV_P	Drive access time (mins)
3	DRVDIST_P	Drive access distance (miles)
4	WLK_P	Walk access time (mins)
5	WLK_A	Walk egress time (mins)
6	WLK_X	Walk transfer time (mins)
7	IWAIT	Initial wait time (mins)
8	XWAIT	Transfer wait time (mins)
9	FARE	Fare (dollars)
10	BRDS	Number of boardings

Non-motorized

The non-motorized (bike and walk) skims are generated at micro-zone (MAZ) level. Though, walk skims are also produced at zonal (TAZ) level. The bike skim is {scenario_name}_MAZ_SKM_BIKE.mat and contains attributes as shown in Table 67.

TABLE 67: BIKE SKIM (MAZ) ATTRIBUTES

SKIM INDEX	SKIM ATTRIBUTE	DESCRIPTION
1	DIST_BIKE	Bike distance (miles) for OD pair

The MAZ and TAZ walk skims are WALK_SKIM_MAZ_MAZ_SORTED.TXT and {scenario_name}_TAZ_SKM_WALK.mat respectively. Available attributes are presented in Table 68 and Table 69.

TABLE 68: WALK SKIM (MAZ) ATTRIBUTES

FIELD	DESCRIPTION
Record_id	Record number
From_node_id	Origin node id
To_node_id	Destination node id
Distance	Distance (miles)

Note: node ids are nearest nodes to micro-zones. The file "Scenarios\TU22_Base\11_DaySim\maz_node_2022.dat" provides nearest node to a micro-zone. The file is in the following format: id (mazid), node_id (nearest node id).

TABLE 69: WALK SKIM (TAZ) ATTRIBUTES

SKIM INDEX	SKIM ATTRIBUTE	DESCRIPTION
1	TIME_WALK	Walk travel time (mins) for OD pair
2	DIST_WALK	Walk distance (miles) for OD pair

Assignment Results

Assignment results are output in "Scenarios\TU22_BASE\09_Assignment".

Highway

The highway assignment results are output in a CUBE network format "TU22_BASE_LOADEDNETWORK_DETAIL.NET"), as well as in a database file format ("TU22_BASE_LOADEDNETWORK_DETAIL.DBF"). Both outputs contain attributes as shown in Table 70.

TABLE 70: ATTRIBUTES IN HIGHWAY ASSIGNMENT RESULT

FIELD	DESCRIPTION
A	A node
B	B node
SHAPE_LENGT	Link length (feet)

FIELD	DESCRIPTION
DISTANCE	Distance (miles)
CAPCLASS	Capacity class
LANES	Number of lanes
NAME	Street name
ROUTE	Route
TERRAIN	Terrain type (F or R)
JURISDICTIO	Jurisdiction
SCREENLINE	Screen line id
SPEED	Speed (mph)
AREATYP	Area type (R-rural, U-urban, SU-suburban)
FACTYP	Facility type 0: local 1: Freeway 2: Highway 3: Expressway 4: Arterial 5: Collector 6: Local 7: Ramp-Freeway-Freeway 8: Ramp-Slip 9: Ramp-Loop 10: Connector1 11: Connector2

FIELD	DESCRIPTION
AUX	Presence of auxiliary lane (1-yes; 0-no)
USE	Type of use
TOLL	Toll (dollars)
IMPROVED	Improvement id
A01_VOL	AB volume in AM peak hour
TOT_A01_VOL	Total (AB+BA) volume in AM peak hour
A03_VOL	AB volume in AM period
TOT_A03_VOL	Total (AB+BA) volume in AM period
M07_VOL	AB volume in MD period
TOT_M07_VOL	Total (AB+BA) volume in MD period
P01_VOL	AB volume in PM peak hour
TOT_P01_VOL	Total (AB+BA) volume in PM peak hour
P03_VOL	AB volume in PM period
TOT_P03_VOL	Total (AB+BA) volume in PM period
E11_VOL	AB volume in EV period
TOT_E11_VOL	Total (AB+BA) volume in EV period
D24_VOL	Daily AB volume
TOT_D24_VOL	Daily total (AB+BA) volume
A01_PAS_VOL	AB passenger car volume in AM peak hour
TOT_A01_PAS	Total (AB+BA) passenger car volume in AM peak hour

FIELD	DESCRIPTION
A03_PAS_VOL	AB passenger car volume in AM period
TOT_A03_PAS	Total (AB+BA) passenger car volume in AM period
M07_PAS_VOL	AB passenger car volume in MD period
TOT_M07_PAS	Total (AB+BA) passenger car volume in MD period
P01_PAS_VOL	AB passenger car volume in PM peak hour
TOT_P01_PAS	Total (AB+BA) passenger car volume in PM peak hour
P03_PAS_VOL	AB passenger car volume in PM period
TOT_P03_PAS	Total (AB+BA) passenger car volume in PM period
E11_PAS_VOL	AB passenger car volume in EV period
TOT_E11_PAS	Total (AB+BA) passenger car volume in EV period
D24_PAS_VOL	Daily AB passenger car volume
TOT_D24_PAS	Daily total (AB+BA) passenger car volume
A01_XX_VOL	AB external volume in AM peak hour
TOT_A01_XX_	Total (AB+BA) external volume in AM peak hour
A03_XX_VOL	AB external volume in AM period
TOT_A03_XX_	Total (AB+BA) external volume in AM period
M07_XX_VOL	AB external volume in MD period
TOT_M07_XX_	Total (AB+BA) external volume in MD period
P01_XX_VOL	AB external volume in PM peak hour
TOT_P01_XX_	Total (AB+BA) external volume in PM peak hour

FIELD	DESCRIPTION
P03_XX_VOL	AB external volume in PM period
TOT_P03_XX_	Total (AB+BA) external volume in PM period
E11_XX_VOL	AB external volume in EV period
TOT_E11_XX_	Total (AB+BA) external volume in EV period
D24_XX_VOL	Daily AB external volume
TOT_D24_XX_	Daily total (AB+BA) external volume
A01_TS_VOL	AB small truck volume in AM peak hour
TOT_A01_TS_	Total (AB+BA) small truck volume in AM peak hour
A03_TS_VOL	AB small truck volume in AM period
TOT_A03_TS_	Total (AB+BA) small truck volume in AM period
M07_TS_VOL	AB small truck volume in MD period
TOT_M07_TS_	Total (AB+BA) small truck volume in MD period
P01_TS_VOL	AB small truck volume in PM peak hour
TOT_P01_TS_	Total (AB+BA) small truck volume in PM peak hour
P03_TS_VOL	AB small truck volume in PM period
TOT_P03_TS_	Total (AB+BA) small truck volume in PM period
E11_TS_VOL	AB small truck volume in EV period
TOT_E11_TS_	Total (AB+BA) small truck volume in EV period
D24_TS_VOL	Daily AB small truck volume
TOT_D24_TS_	Daily total (AB+BA) small truck volume

FIELD	DESCRIPTION
A01_MED_VOL	AB medium truck volume in AM peak hour
TOT_A01_MED	Total (AB+BA) medium truck volume in AM peak hour
A03_MED_VOL	AB medium truck volume in AM period
TOT_A03_MED	Total (AB+BA) medium truck volume in AM period
M07_MED_VOL	AB medium truck volume in MD period
TOT_M07_MED	Total (AB+BA) medium truck volume in MD period
P01_MED_VOL	AB medium truck volume in PM peak hour
TOT_P01_MED	Total (AB+BA) medium truck volume in PM peak hour
P03_MED_VOL	AB medium truck volume in PM period
TOT_P03_MED	Total (AB+BA) medium truck volume in PM period
E11_MED_VOL	AB medium truck volume in EV period
TOT_E11_MED	Total (AB+BA) medium truck volume in EV period
D24_MED_VOL	Daily AB medium truck volume
TOT_D24_MED	Daily total (AB+BA) medium truck volume
A01_HVY_VOL	AB heavy truck volume in AM peak hour
TOT_A01_HVY	Total (AB+BA) heavy truck volume in AM peak hour
A03_HVY_VOL	AB heavy truck volume in AM period
TOT_A03_HVY	Total (AB+BA) heavy truck volume in AM period
M07_HVY_VOL	AB heavy truck volume in MD period
TOT_M07_HVY	Total (AB+BA) heavy truck volume in MD period

FIELD	DESCRIPTION
P01_HVY_VOL	AB heavy truck volume in PM peak hour
TOT_P01_HVY	Total (AB+BA) heavy truck volume in PM peak hour
P03_HVY_VOL	AB heavy truck volume in PM period
TOT_P03_HVY	Total (AB+BA) heavy truck volume in PM period
E11_HVY_VOL	AB heavy truck volume in EV period
TOT_E11_HVY	Total (AB+BA) heavy truck volume in EV period
D24_HVY_VOL	Daily AB heavy truck volume
TOT_D24_HVY	Daily total (AB+BA) heavy truck volume
A01_TRK_VOL	AB truck volume in AM peak hour
TOT_A01_TRK	Total (AB+BA) truck volume in AM peak hour
A03_TRK_VOL	AB truck volume in AM period
TOT_A03_TRK	Total (AB+BA) truck volume in AM period
M07_TRK_VOL	AB truck volume in MD period
TOT_M07_TRK	Total (AB+BA) truck volume in MD period
P01_TRK_VOL	AB truck volume in PM peak hour
TOT_P01_TRK	Total (AB+BA) truck volume in PM peak hour
P03_TRK_VOL	AB truck volume in PM period
TOT_P03_TRK	Total (AB+BA) truck volume in PM period
E11_TRK_VOL	AB truck volume in EV period
TOT_E11_TRK	Total (AB+BA) truck volume in EV period

FIELD	DESCRIPTION
D24_TRK_VOL	Daily AB truck volume
TOT_D24_TRK	Daily total (AB+BA) truck volume
A01_ASG_SP	AB speed in AM peak hour
A03_ASG_SP	AB speed in AM period
M07_ASG_SP	AB speed in AM period
P01_ASG_SP	AB speed in PM peak hour
P03_ASG_SP	AB speed in PM period
E11_ASG_SP	AB speed in EV period
D24_ASG_SP	Average daily AB speed
AIRBASIN	Air basin number for air quality or County number in multi-county models
LOS_AM	Level of service in AM period
LOS_MD	Level of service in MD period
LOS_PM	Level of service in PM period
LOS_EV	Level of service in EV period
LOS_AM1HR	Level of service in AM peak hour
LOS_PM1HR	Level of service in PM peak hour
TSM	Transportation System Management
EJ	Environmental Justice designation (0 or 1)
A03_DA	AB drive alone volume in AM peak hour
TOT_A03_DA	Total (AB+BA) drive alone volume in AM peak hour

FIELD	DESCRIPTION
A03_DA	AB drive alone volume in AM period
TOT_A03_DA	Total (AB+BA) drive alone volume in AM period
M07_DA	AB drive alone volume in MD period
TOT_M07_DA	Total (AB+BA) drive alone volume in MD period
P01_DA	AB drive alone volume in PM peak hour
TOT_P01_DA	Total (AB+BA) drive alone volume in PM peak hour
P03_DA	AB drive alone volume in PM period
TOT_P03_DA	Total (AB+BA) drive alone volume in PM period
E11_DA	AB drive alone volume in EV period
TOT_E11_DA	Total (AB+BA) drive alone volume in EV period
D24_DA	Daily AB drive alone volume
TOT_D24_DA	Daily total (AB+BA) drive alone volume
A03_S2	AB shared-ride 2 volume in AM peak hour
TOT_A03_S2	Total (AB+BA) shared-ride 2 volume in AM peak hour
A03_S2	AB shared-ride 2 volume in AM period
TOT_A03_S2	Total (AB+BA) shared-ride 2 volume in AM period
M07_S2	AB shared-ride 2 volume in MD period
TOT_M07_S2	Total (AB+BA) shared-ride 2 volume in MD period
P01_S2	AB shared-ride 2 volume in PM peak hour
TOT_P01_S2	Total (AB+BA) shared-ride 2 volume in PM peak hour

FIELD	DESCRIPTION
P03_S2	AB shared-ride 2 volume in PM period
TOT_P03_S2	Total (AB+BA) shared-ride 2 volume in PM period
E11_S2	AB shared-ride 2 volume in EV period
TOT_E11_S2	Total (AB+BA) shared-ride 2 volume in EV period
D24_S2	Daily AB shared-ride 2 volume
TOT_D24_S2	Daily total (AB+BA) shared-ride 2 volume
A03_S3	AB shared-ride 3+ volume in AM peak hour
TOT_A03_S3	Total (AB+BA) shared-ride 3+ volume in AM peak hour
A03_S3	AB shared-ride 3+ volume in AM period
TOT_A03_S3	Total (AB+BA) shared-ride 3+ volume in AM period
M07_S3	AB shared-ride 3+ volume in MD period
TOT_M07_S3	Total (AB+BA) shared-ride 3+ volume in MD period
P01_S3	AB shared-ride 3+ volume in PM peak hour
TOT_P01_S3	Total (AB+BA) shared-ride 3+ volume in PM peak hour
P03_S3	AB shared-ride 3+ volume in PM period
TOT_P03_S3	Total (AB+BA) shared-ride 3+ volume in PM period
E11_S3	AB shared-ride 3+ volume in EV period
TOT_E11_S3	Total (AB+BA) shared-ride 3+ volume in EV period
D24_S3	Daily AB shared-ride 3+ volume
TOT_D24_S3	Daily total (AB+BA) shared-ride 3+ volume

Transit

The transit assignment results are available by two time periods (PK: peak and OK: off-peak), two sub-modes (B: bus and R: rail), and two access modes (W: walk and D: drive). The outputs are produced both in CUBE network format ({scenario_name}_VOL_{tod}_T{access_mode}{submode}.NET), as well as in database file format {scenario_name}_VOL_{tod}_T{access_mode}{submode}.DBF). The outputs contain attributes as shown in Table 71.

TABLE 71: ATTRIBUTES IN TRANSIT ASSIGNMENT RESULTS

FIELD	DESCRIPTION
A	Node A
B	Node B
MODE	Transit sub-mode id 1: local bus (FAX and Clovis) 2: local bus (FCRTA)
OPERATOR	Transit operator
NAME	Transit line name
LONGNAME	Transit line long name
DIST	Distance (miles)
TIME	Transit travel time
LINKSEQ	Link sequence
HEADWAY_2	Headway
STOPA	Is node A stop (1: yes, 0: no)
STOPB	Is node B stop (1: yes, 0: no)
VOL	Transit volume
ONA	On-boarding at node A

FIELD	DESCRIPTION
OFFA	Off-boarding at node A
ONB	On-boarding at node B
OFFB	Off-boarding at node B
REV_VOL	Revised transit volume
REV_ONA	Revised on-boarding at node A
REV_OFFA	Revised off-boarding at node A
REV_ONB	Revised on-boarding at node B
REV_OFFB	Revised off-boarding at node B

Reports and Summaries

Several summaries and reports are generated during a model run. DaySim summaries are generated in “11_DaySim\daysim_summaries” folder under the scenario folder, including the following outputs files in Table 72.

TABLE 72. DAYSIM SUMMARIES OUTPUTS

FILE	DESCRIPTION
VehAvailability.xlsm	Auto ownership summaries
WrkLocation.xlsm	Work location choice summaries
SchLocation.xlsm	School location choice summaries
DayPattern.xlsm	Person daily activity pattern summaries
TourDestination_[purpose].xlsm	Tour destination choice summaries by purpose (meal, shopping, personal business, social/recreation, escort, work-based)

FILE	DESCRIPTION
TourDestination_maintenance.xlsm	Tour destination choice summaries for maintenance purpose – aggregation of shopping and personal business
TourDestination_discretionary.xlsm	Tour destination choice summaries for maintenance purpose – aggregation of meal and social/recreation
TripDestination.xlsm	Trip destination choice summaries
TourMode.xlsm	Tour mode choice summaries
TripMode.xlsm	Trip mode choice summaries
TourTOD.xlsm	Tour time of day summaries
TripTOD.xlsm	Trip time of day summaries

Highway and transit validation summaries are generated in “10_Reporting\ validation_summary.xlsx”. The summaries include traffic count validation by facility type and volume group, traffic count validation along key highway corridors, transit boarding validation, and vehicle miles traveled validation regionally.

APPENDIX A. DAYSIM CALIBRATION SUMMARIES

TABLE 73. SHARE OF HOUSEHOLDS BY VEHICLES AND DRIVERS (ACS)

	NUMBER OF VEHICLES					
No. of Drivers	0	1	2	3	4+	Total
1	10.4%	67.0%	17.6%	3.9%	1.2%	100.0%
2	3.2%	21.3%	52.1%	17.4%	5.9%	100.0%
3	1.6%	10.8%	36.0%	35.2%	16.4%	100.0%
4+	0.5%	7.1%	17.2%	34.5%	40.6%	100.0%
Total	**4.0%**	**26.8%**	**36.4%**	**20.3%**	**12.4%**	**100.0%**

TABLE 74: SHARE OF HOUSEHOLDS BY VEHICLES AND DRIVERS (ABM)

	NUMBER OF VEHICLES					
No. of Drivers	0	1	2	3	4+	Total
1	10.4%	67.1%	17.4%	3.9%	1.2%	100.0%
2	3.3%	21.0%	52.5%	17.3%	5.9%	100.0%
3	1.5%	10.6%	37.1%	34.0%	16.7%	100.0%
4+	0.5%	6.7%	17.1%	35.1%	40.5%	100.0%
Total	**4.0%**	**26.6%**	**36.7%**	**20.2%**	**12.5%**	**100.0%**

TABLE 75: DIFFERENCE IN SHARE OF HOUSEHOLDS BY VEHICLES AND DRIVERS (ABM - ACS)

	NUMBER OF VEHICLES					
No. of Drivers	0	1	2	3	4+	Total
1	0.0%	0.1%	-0.1%	0.0%	0.0%	0.0%
2	0.1%	-0.3%	0.3%	-0.1%	0.0%	0.0%

NUMBER OF VEHICLES						
3	0.0%	-0.1%	1.1%	-1.3%	0.3%	0.0%
4+	0.0%	-0.4%	-0.1%	0.6%	-0.1%	0.0%
Total	**0.0%**	**-0.2%**	**0.3%**	**-0.2%**	**0.1%**	**0.0%**

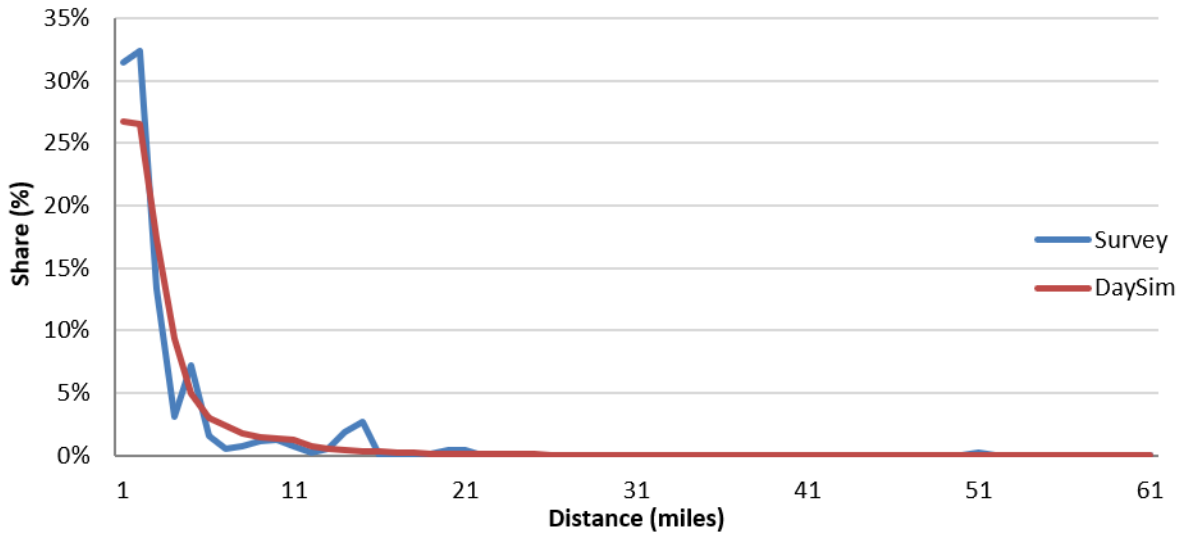


FIGURE 33: TOUR LENGTH DISTRIBUTION FOR DISCRETIONARY TRAVEL

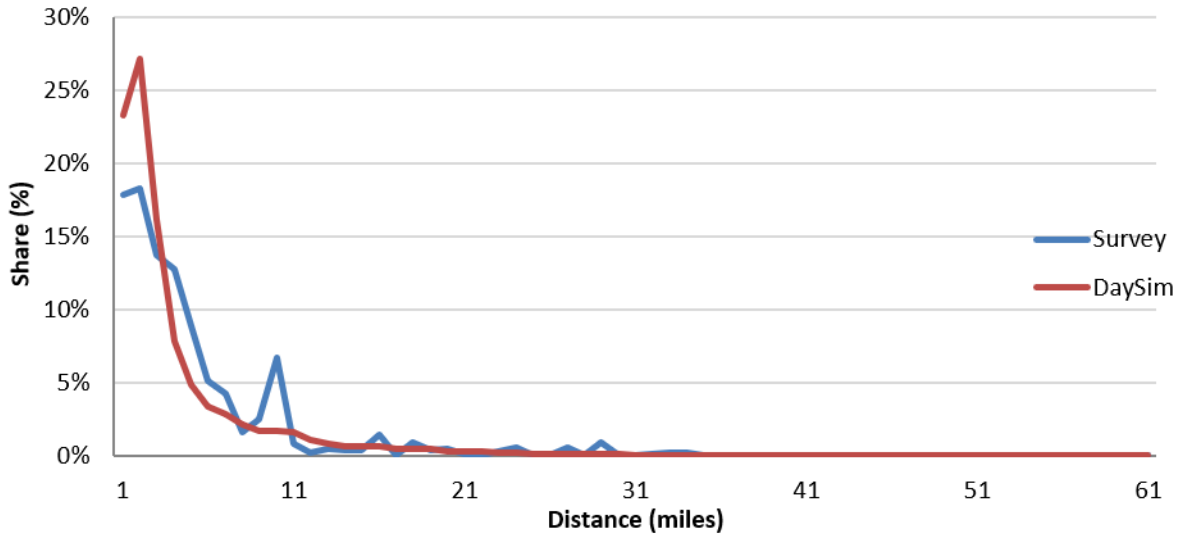


FIGURE 34: TOUR LENGTH DISTRIBUTION FOR MAINTENANCE TRAVEL

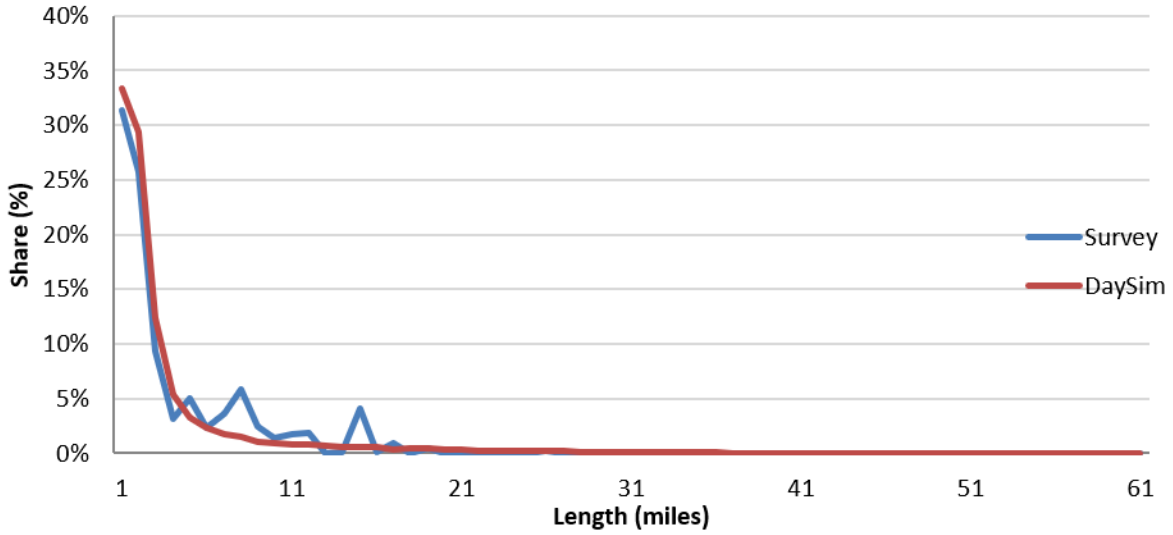


FIGURE 35: TOUR LENGTH FREQUENCY DISTRIBUTION FOR ESCORT TRAVEL

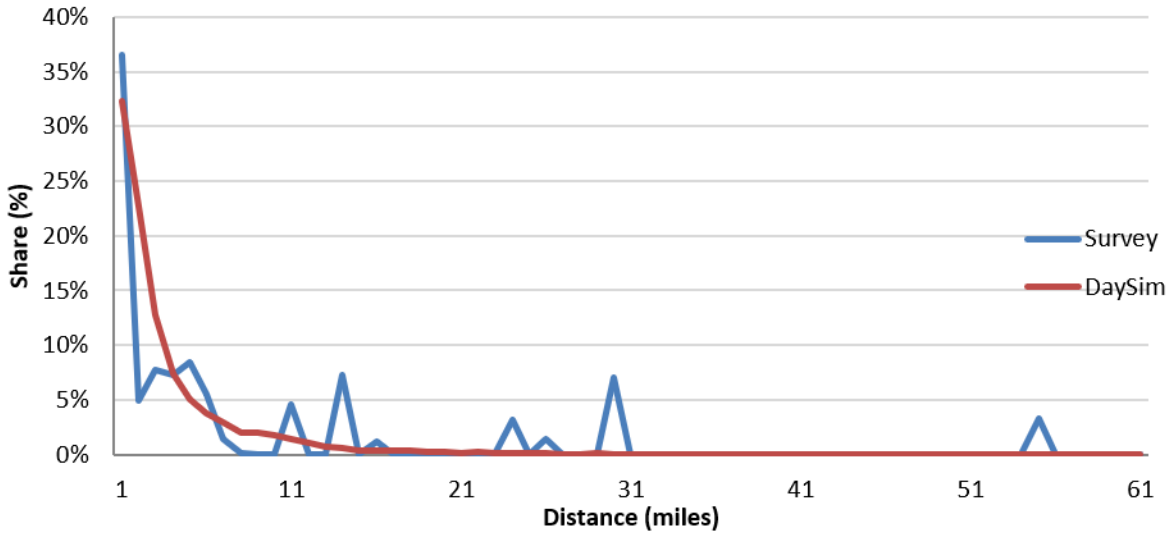


FIGURE 36: TOUR LENGTH FREQUENCY DISTRIBUTION FOR WORK-BASED TRAVEL

TABLE 76: TOUR MODE SHARES (CCTS)

MODE	WORK	SCHOOL	ESCORT	OTHER	WORK-BASED	TOTAL
Drive Alone	64%	6%	4%	28%	60%	28.9%
SR2	20%	20%	30%	29%	12%	25.4%
SR3+	13%	55%	63%	32%	6%	37.0%
Drive Transit	0%	0%	0%	0%	0%	0.0%
Walk Transit	1%	1%	0%	1%	0%	0.6%
Bike	0.6%	0.8%	0.1%	1.5%	0%	0.8%
Walk	1%	10%	2%	9%	22%	6.1%
School Bus	0%	7%	0%	0%	0%	0.9%
TNC	0%	0%	0%	0%	0%	0.3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

TABLE 77: TOUR MODE SHARES (ABM)

MODE	WORK	SCHOOL	ESCORT	OTHER	WORK-BASED	TOTAL
Drive Alone	62%	7%	3%	28%	76%	26.0%
SR2	21%	21%	37%	29%	14%	27.0%
SR3+	14%	54%	53%	31%	3%	36.9%
Drive Transit	0%	0%	0%	0%	0%	0.0%
Walk Transit	1%	1%	0%	1%	0%	0.6%

Bike	0.5%	0.8%	0.3%	1.5%	0%	0.9%
Walk	1%	10%	6%	9%	7%	7.0%
School Bus	0%	7%	0%	0%	0%	1.4%
TNC	0%	0%	0%	0%	0%	0.3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

TABLE 78: DIFF IN TOUR MODE SHARES (ABM-CCTS)

MODE	WORK	SCHOOL	ESCORT	OTHER	WORK-BASED	TOTAL
Drive Alone	-2.3%	0.3%	-1.5%	0.3%	16.7%	-2.9%
SR2	1.5%	0.4%	7.2%	-0.1%	1.8%	1.6%
SR3+	0.9%	-0.2%	-9.7%	-0.2%	-3.0%	-0.1%
Drive Transit	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Walk Transit	0.0%	0.0%	-0.2%	0.0%	-0.1%	0.0%
Bike	0.0%	0.0%	0.2%	0.0%	0.1%	0.0%
Walk	0.0%	-0.3%	4.1%	0.1%	-15.5%	0.9%
School Bus	0.0%	-0.2%	-0.1%	0.0%	0.0%	0.5%
TNC	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

TABLE 79. TRIP MODE SHARES (CCTS)

MODE	WORK	SCHOOL	ESCORT	OTHER	WORK-BASED	TOTAL
Drive Alone	71%	9%	15%	32%	61%	36.6%
SR2	15%	26%	29%	29%	12%	25.1%
SR3+	9%	48%	51%	28%	7%	30.0%
Transit	1%	1%	0%	0%	0%	0.3%

Bike	0%	0%	0%	1%	0%	0.6%
Walk	3%	10%	3%	8%	20%	6.3%
School Bus	0%	5%	0%	0%	0%	0.6%
TNC	0%	1%	1%	0%	0%	0.5%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

TABLE 80. TRIP MODE SHARES (ABM)

MODE	WORK	SCHOOL	ESCORT	OTHER	WORK-BASED	TOTAL
Drive Alone	75%	9%	24%	31%	77%	36.6%
SR2	12%	27%	32%	31%	13%	24.7%
SR3+	9%	48%	36%	28%	2%	28.9%
Transit	0%	0%	0%	0%	0%	0.3%
Bike	0%	1%	1%	1%	0%	0.7%
Walk	3%	12%	8%	9%	7%	7.9%
School Bus	0%	3%	0%	0%	0%	0.8%
TNC	0%	0%	0%	0%	0%	0.1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

TABLE 81. TRIP MODE SHARES (ABM-CCTS)

MODE	WORK	SCHOOL	ESCORT	OTHER	WORK-BASED	TOTAL
Drive Alone	4.1%	0.0%	8.2%	-1.5%	16.3%	0.0%
SR2	-3.8%	0.4%	2.6%	1.3%	1.2%	-0.4%
SR3+	0.4%	-0.1%	-15.0%	-0.7%	-4.1%	-1.1%
Transit	0.0%	-0.2%	-0.1%	0.1%	-0.4%	0.0%
Bike	0.0%	0.2%	0.5%	0.1%	0.1%	0.1%
Walk	-0.5%	2.3%	4.4%	1.0%	-13.0%	1.6%
School Bus	0.0%	-1.4%	-0.1%	0.0%	0.0%	0.2%
TNC	-0.1%	-1.1%	-0.6%	-0.3%	0.0%	-0.4%
Total	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

APPENDIX B. SYNTHETIC POPULATION

This appendix describes the setup and process to generate synthetic population for the Tulare Activity-Based Model (Tulare ABM). The synthetic population is generated using PopulationSim, an open platform for population synthesis, and is automated using several Python and R scripts and Windows Command Prompt batch files.

PopulationSim is a state-of-the-art standardized population synthesis program first developed for the Oregon Department of Transportation (ODOT) and its partner agencies. It is implemented in the Python-based ActivitySim modeling framework. Software development adheres to software engineering best practices. The system is under continuous integration (CI), which means the software and documentation are automatically built and tested against sample datasets to ensure that new features do not break the code base for any user. The PopulationSim source code and technical documentation are available online at the following public GitHub repository: https://github.com/RSGInc/populationsim.

PopulationSim is implemented for the Tulare modeling region to generate the synthetic population for base year 2022. The implementation is largely automated. All the data processing scripts are written in Python and R and automated using batch files including processes to build geographic crosswalks, download Census data across various geographies, build controls, process the Public Use Microdata Sample (PUMS), running the PopulationSim software and generating validation summaries and plots. The following sections describe setting up a PopulationSim run, details of Python and R scripts, batch files, and validation.

SOFTWARE REQUIREMENTS

The software below are for a machine with Windows operating systems (Windows 7). The following software are required to run the PopulationSim setup:

- R
- Anaconda 3

R software is included with the PopulationSim setup delivered to Tulare CAG and Anaconda 3 setup is delivered in a zipped package “miniforge.zip”. The zipped conda package contains two environments – one to generate crosswalks and other to run PopulationSim. The user needs to unzip the package to a separate location as the path to this location will be used to run PopulationSim.

POPULATIONSIM DIRECTORY

Figure 37 presents the directory structure for the PopulationSim setup created for Tulare. The folders and files in the directory are explained as follows:

- The *Data* directory contains various geography shapefiles (BlockGroup, CensusTract, PUMS, TAZ, and MAZ), seed data (PUMS) and downloaded census data (Census)
- The *output* folder will have the final synthetic household and person file and summary attributes after a successful run. The household and group-quarter populations are stored separately under *HH* and *GQ* directories and a total combined synthetic population results are stored under *Combined* directory. It also contains a sub-folder *DaySimFormat* to contain formatted outputs to directly use in DaySim.
- The *logs* directory is where log files of each part of the run are stored.
- The *validation* directory houses the convergence and control plots generated by the validation step.

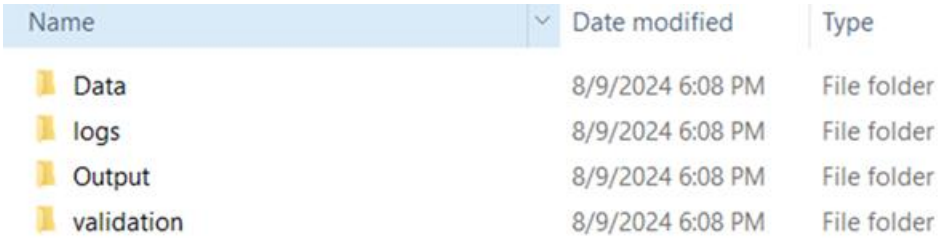


FIGURE 37: POPULATIONSIM FOLDER STRUCTURE

Additional settings for PopulationSim are stored in the “App\Setup” folder of the model. These settings only need to be changed if reconfiguring PopulationSim to new controls.

- The *configs* folder contains the **settings.yaml** file and **controls.csv** file for household (HH). Presently, no group-quarters (GQ) setup is included.
- PopulationSim is configured using the **settings.yaml** file. For this project, it is configured to run in base mode which means it is run from beginning to end and produces a new synthetic population.
- **controls.csv** file specifies all the targets, geography, seed table, control field and their expression to the seed table required for the PopulationSim run.
- The *data* directory holds all intermediate files that are prepared for input to PopulationSim: seeds data, control data, and crosswalks.
- **run_populationsim.py** launches a PopulationSim run. The script is used in **RunPopulationSimHH.bat** file.
- **RunPopulationSimHH.bat** sets paths to Anaconda install and calls the run_populationsim.py to launch a PopulationSim run. This batch file activates the

PopulationSim environment and then calls the **run_populationsim.py** Python script to launch a PopulationSim run. This batch file is called by the main batch file "**RunAll.bat**".

Run PopulationSim

The PopulationSim setup is now integrated in the Cube Catalog as a standalone feature. It must be run separately from the model run. Before starting, the user needs to configure two scenario keys – "Run_PopSim" set to 1, and "ANACONDADIR" set to the path of the unzipped *miniforge.zip* package. After updating these keys to appropriate values the user can then run PopulationSim by navigating to the PopulationSim module and selecting "Run" and checking "run current application only" as shown in Figure 38.

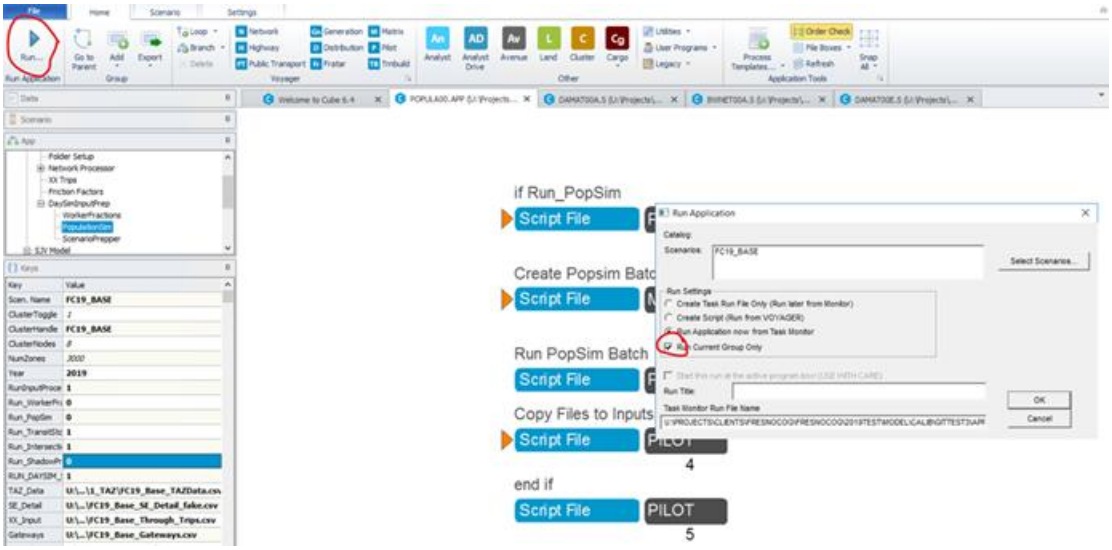


FIGURE 38: RUNNING POPULATIONSIM FROM THE CUBE CATALOG

A PopulationSim run generates outputs under "PopulationSim\\output\HH": synthetic_households.csv and synthetic_persons.csv. These outputs are then automatically converted into DaySim format here: PopulationSim\Setup\output\daysim_format. When RUN_POPSIM_GQ is set to "YES", the outputs of the HH Run will automatically be processed and combined. The output will be in "PopulationSim\Setup\output\Combined". To update the population in the 2022 base year, the user should update the files described in Table 82.

TABLE 82: FILES FOR UPDATING POPULATION DATA

FILE NAME	FILE LOCATION	DATA
MazData.csv	PopulationSim\Data\MAZ	Number of Households in each MAZ

These files will determine the number of households in each zone. The population will be generated based on the development of controls from census data.

The following section describes the processes that happen in a PopulationSim run.

Population Synthesis Procedure

PopulationSim is configured to run using a batch file and the order of execution of different steps are as follows: 1) creation of geographic crosswalk; 2) preparation of seed data and build controls; and 3) validation of ouputs.

Geography Crosswalk

The main inputs to a PopulationSim are:

- Disaggregate population samples (Seed Sample)
- Marginal control distributions (Control variables)

PopulationSim can represent both household and person level controls at multiple geographic levels. Therefore, the user must define what geographic units to use for each control. The hierarchy of geographies is important when choosing controls. The Meta geography is the entire region. Currently, PopulationSim can handle only one Meta geography. The Seed geography is the geographic resolution of the seed data. There can be one or more Seed geographies. PopulationSim can handle any number of nested Sub-Seed geographies.

The geography level (hierarchy) selected for Tulare implementation to which the marginal distributions are specified are as follows:

- Seed Geography: PUMA
- Sub-seed Geography: TAZ and MAZ

Preparing Seed and Control Data

Preparing Seed Sample

One of the main requirements for the seed sample is that it should be representative of the modeling region. It must contain all the specified control variables, as well as any variables that are needed for the travel model but not specified as controls. The seed sample is obtained from 2018-2022 5-Year PUMS data. The PUMS data contain five years of household records. The PUMS data is downloaded from PUMS website and it is extracted both demographically and geographically for the Tulare region using PUMA codes conforming to the region. There are 7 PUMA regions in the Tulare county. The seed sample must include an initial weight field. In this project, the Seed sample contains a weight field, WGTP, which is used for control of total households.

Preparing Control Data

Controls or targets are the marginal distributions that form the constraints for the PopulationSim procedure. The objective of the PopulationSim procedure is to produce a synthetic population whose attributes match these marginal distributions. Controls can be specified for both household and person variables. The choice of control variables depends on the needs of the project. The mandatory requirement for a population synthesizer is to generate the right number of households in each travel model geography. Therefore, it is mandatory to specify a control on total number of households in each geographical unit at the lowest geographical level. If this control is matched perfectly, it ensures that all the upper geographies also have the correct number of households assigned to them. Once the raw data is obtained, it is aggregated or disaggregated to the desired geography to build these controls.

Level: TAZ

- Households by Household Size at Block Group Level
- Households by age of householder head at Block Group Level
- Households by number of workers at Census Tract Level
- HHs by income at Census Tract Level
- HHs by presence or absence of Kids at Tract Level
- Person by age at Census Tract Level
- Persons by gender at Tract Level

Level: MAZ

- Total households

The data obtained at this level is total number of households aggregated for each MAZ. Once the control files are prepared, the total number of households and persons are calculated across geographies to check for consistency.

Validation

One of the most critical steps in population synthesis is validating the final synthetic population. Validation can give us clues about inconsistencies among controls, data processing errors or misspecification of any settings. The validation procedure implemented for Tulare PopulationSim produces a validation summary, validation chart, frequency plots and expansion factor distribution. Each of these are described briefly below:

Validation summary statistics

At a regional level, for each control, the total number of records (household/person) desired by the control, the total number of records synthesized, the difference between the synthesized totals and the control totals and the percentage difference are reported.

Statistics that inform us of convergence at a more disaggregate level are also computed – please note that these statistics are being computed for the geography at which the controls are specified i.e. MAZ, TAZ or Meta as the case might be. The following three statistics are computed as a part of this exercise:

1. The average percentage difference between the control totals and the synthesized totals,
2. The standard deviation of the percentage difference – this measure informs us of how much dispersion from the average exists, and
3. The percentage root mean square error (RMSE) - an indicator of the proximity of synthesized and control totals.

The number of geographies for which the control is non-zero (N) are also reported.

Validation Chart

The validation chart is a visualization of the disaggregate summary statistics – mean percentage difference, STDEV and RMSE of percentage differences. A form of dot and whisker plot is generated for each control where the dots are the mean percentage differences and horizontal bars are twice the STDEV or RMSE centered around zero.

Frequency Distribution Plots

These are simply frequency distribution plots of differences between control and synthesized values across the geography at which the controls were specified.

Expansion factor Distribution

While a synthetic population may match the controls well, it is important to know how uniform the household weights are, and how different they are from the initial weights. The closer the final weights are to the initial PUMS weight, higher is the chance of matching the distribution of uncontrolled variables. An expansion factor is computed for each record in the PUMS data as total final weight/initial weight. A distribution plot of these expansion factors is created for each PUMA. A good synthetic population would have most of these expansion factors as close to one as possible.

Scripts

The PopulationSim works with Python and R databases. In the existing setup, the main batch file makes system calls to various Python and R scripts.

The data processing steps required to prepare inputs for PopulationSim in the right format are implemented via Python scripts. Separate R scripts handle data processing and creates validation summaries and plots. The **RunAll.bat** file makes system calls to run these scripts. A brief description of each script is as follows:

Note that the main batch file (RunAll.bat) creates various user inputs and parameters. The main batch file writes all the user settings to a CSV file and then calls the scripts. The scripts read the CSV parameters file and calls other scripts as required. The parameters file (parameters.csv) is read by other scripts as well to read in user parameters and settings.

downloadCensusData.py

This script downloads the census data required to build controls for the PopulationSim run. Census data is downloaded from the web which creates the appropriate URL to fetch data via the Census API. Census data which is not available for download via the Census API is downloaded once and is always read from the data directory.

buildControls.py

The objective of this script is to build MAZ and TAZ controls as well as process the seeds household and person data. The main inputs are block group or tract level Census data and the existing MAZ and TAZ level data which mainly contains the number of households for each geography.

Once the Census data has been downloaded at the block group and tract level, the next step is to allocate the control data and scale it to match the households at each of the relevant geographies. Block group level data is allocated to MAZs to create MAZ level controls and tract level data is allocated to TAZs to create TAZ level controls. MAZ level data can also aggregated to TAZ geography to create TAZ level controls. The allocations are done proportional to the number of households in each lower geography. The allocation step requires two geographic crosswalks: MAZ-block group and TAZ-tract. The crosswalk creation is described in the next sub-section. The allocated data was scaled to match the total number of households for each geography as specified in the existing MAZ and TAZ level data. PopulationSim requires integer controls; therefore, the allocated data was rounded off to the nearest integer. To ensure that the resulting distribution of households sums to the total households, the difference between scaled households and target households was added to the majority category for each household variables. Similar checks were made for the population variables as well.

For person controls, first average persons in household with 4 or more persons are calculated in the PUMS data. The average persons are used to calculate total implied population in the household size category. Tulare CAG provided an estimate of population in Tulare county. The estimate provided the required population in the households of 4 or more persons by taking the difference of the estimate with the implied population in households size 3 or less. Next, a factor

on the average persons in household size 4 or more are calculated by taking the ratio of required population and the existing population in household size 4 or more. A new value of average persons in household size 4 or more is calculated by applying the factor to the average size from PUMS. The updated average persons are used in the calculating population at TAZ. Then the controls (age and gender) are scaled to match estimate of the Tulare population. Additionally, the census tract level population data by age includes both group quarter and household populations. The group quarter population is subtracted out from the total population in the age distribution categories using the same distribution factor of household to group quarter population from the PUMS data.

createGeogXWalks.py

This script creates the geographic crosswalk between MAZ, TAZ, PUMA, Block Group, Census Tract and Region boundaries to be used as input in the PopulationSim run. The script determines a geometrical hierarchy starting from the smallest geographical boundaries. MAZ's are described by a representative point. A representative point is similar to a polygon's centroid, but it is not allowed to be outside of the polygon. The representative point of each MAZ is mapped to a TAZ that the point is within. Next the TAZs are mapped with their representative points to the Block Group the point is within. This process is repeated with each geometry. Census shape files block groups and tracts were downloaded for Census 2010 boundaries[1].

For creating geographic crosswalks, it was assumed that each MAZ lies within a block group and correspondence can be established if the MAZ representative point lies within a block group polygon. Similar assumptions were made for TAZ centroids and Census Tracts. The crosswalk was produced with the geographies:

1. MAZ – TAZ - Block Group -Census Tract – PUMA – County

validatePopulationSim.R

The script generates standard deviation and PRMSE maps comparing generated synthetic population with controls data. The script reads "columnMapPopSim_Tulare.csv" as input from the "PopulationSim/Setup/Validation" directory. This specifies the controls which should be included in the validation process and their field names in summary views and controls tables.

popsimToDaysim.R

The script converts outputs of PopulationSim to formats required in DaySim. The script reads outputs from PopulationSim and raw PUMS data. It creates correspondence between ids in output synthetic population and PUMS data. Then it merges PUMS information to the synthetic population and calculated household and person variables as required in DaySim. The script outputs space delimited household and person files.

popsimToDaysimMerge.R

The script merges the household and group quarter daysim files into one total population and total households file. Each household and group quarter is given a unique ID and the group quarter records are appended to the household records.

mergeHHandGQ.py

The script outputs synthetic households and persons files to "PopulationSim\setup\output\daysim_format".

Base Year (2022) Validation

This section first presents the performance of the existing PopulationSim setup and validation of the recommended controls for 2022. A base year (2022) PopulationSim run was completed with the initial setup, which included the following controls at various geographies:

1. MAZ
    a. Total number of households
2. TAZ
    a. Number of households by household size groups [1, 2, 3, 4+]
    b. Number of households by age of head of the household [15-44, 45-64, 65+]
    b. Number of households by number of workers [0, 1, 2, 3+]
    c. Number of households by income groups [0-$30K, $30K-$60K, $60K-$100K, $100K+]
    d. Number of persons by age groups [0-4, 5-17, 18-24, 25-54, 55+]

Table 83 describes the source of data for each control. Data available at block groups was used to construct MAZ level controls and data available at tract level was used to build TAZ level controls.

TABLE 83. CONTROL DATA SOURCE DESCRIPTION

Control Name	Control Geography	Data Source	Tables/Variables
Total households	MAZ	Tulare MAZ Data	
HH Size 1	TAZ	2018-22 ACS Block Group	["B11016_001E" to "B11016_016E"]
HH Size 2	TAZ	2018-22 ACS Block Group	["B11016_001E" to "B11016_016E"]
HH Size 3	TAZ	2018-22 ACS Block Group	["B11016_001E" to "B11016_016E"]
HH Size 4+	TAZ	2018-22 ACS Block Group	["B11016_001E" to "B11016_016E"]
Household head age 15 to 44 years	TAZ	2018-22 ACS Block Group	["B25007_001E" to "B25007_021E"]
Household head age 44 to 64 years	TAZ	2018-22 ACS Block Group	["B25007_001E" to "B25007_021E"]
Household head age 65 or more year	TAZ	2018-22 ACS Block Group	["B25007_001E" to "B25007_021E"]
HH Income (-Inf, $25K)	TAZ	2018-22 ACS Tract	["B19001_001E" to "B19001_017E"]
HH Income [$25K, $60K)	TAZ	2018-22 ACS Tract	["B19001_001E" to "B19001_017E"]
HH Income [$60K, $100K)	TAZ	2018-22 ACS Tract	["B19001_001E" to "B19001_017E"]

HH Income [$100K, +Inf)	TAZ	2018-22 ACS Tract	["B19001_001E" to "B19001_017E"]
HH Workers 0	TAZ	2018-22 ACS Tract	["B08202_001E" to "B08202_005E"]
HH Workers 1	TAZ	2018-22 ACS Tract	["B08202_001E" to "B08202_005E"]
HH Workers 2	TAZ	2018-22 ACS Tract	["B08202_001E" to "B08202_005E"]
HH Workers 3+	TAZ	2018-22 ACS Tract	["B08202_001E" to "B08202_005E"]
HH w/ children	TAZ	2018-22 ACS Tract	["B25012_001E" to "B25012_017E"]
HH w/o children	TAZ	2018-22 ACS Tract	["B25012_001E" to "B25012_017E"]
Population age 0 to 4 years	TAZ	2018-22 ACS Tract	["B01001_001E" to "B01001_049E"]
Population age 5 to 17 years	TAZ	2018-22 ACS Tract	["B01001_001E" to "B01001_049E"]
Population age 18 to 24 years	TAZ	2018-22 ACS Tract	["B01001_001E" to "B01001_049E"]
Population age 25 to 54 years	TAZ	2018-22 ACS Tract	["B01001_001E" to "B01001_049E"]
Population age 55plus years	TAZ	2018-22 ACS Tract	["B01001_001E" to "B01001_049E"]

We address the inconsistencies among the controls by appropriately scaling the controls to match the total number of households to the MAZ level total number of households control for each geography. The validation results from the run for 2022 are presented in Figure 39.

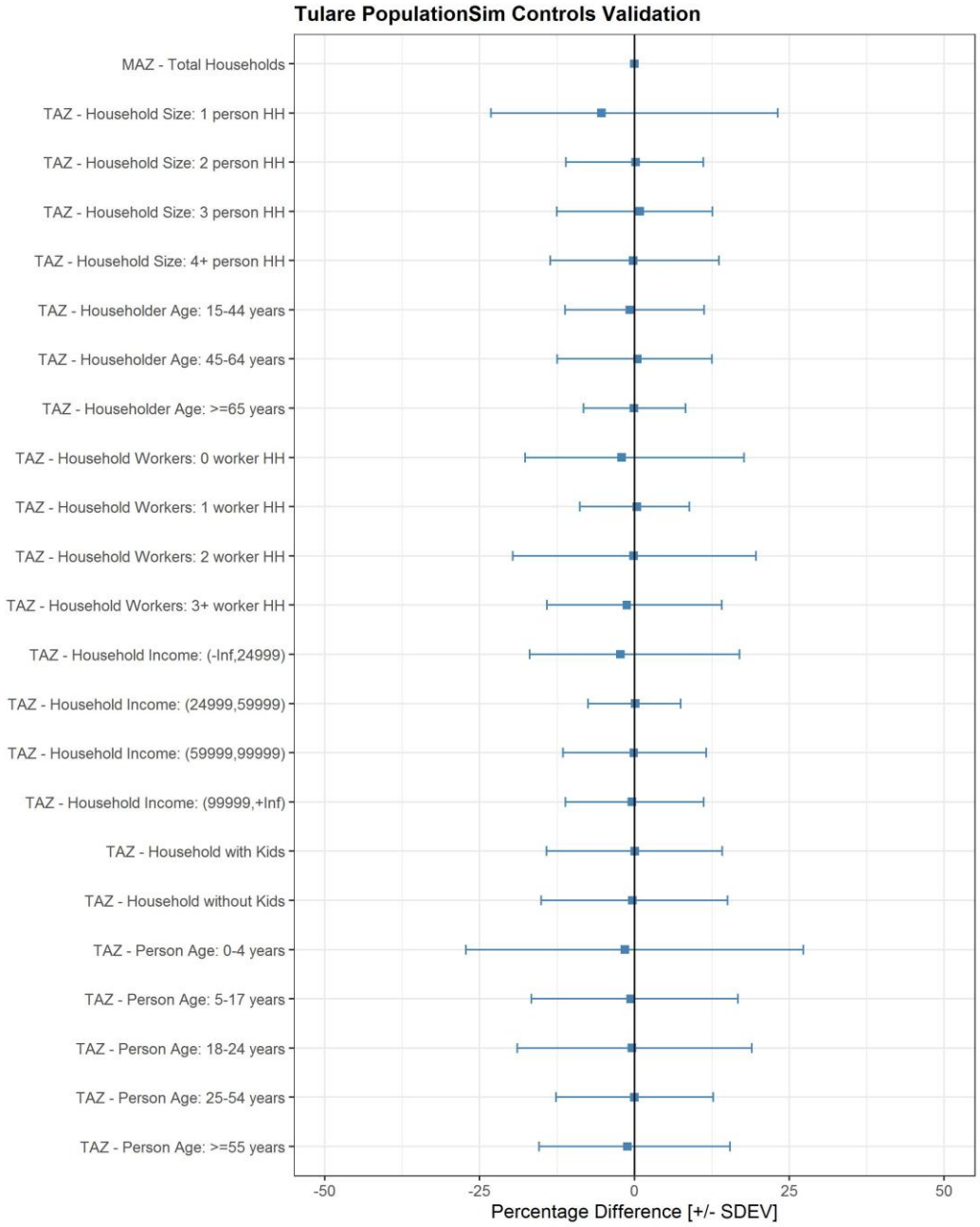


FIGURE 39. POPULATIONSIM VALIDATION – BASE YEAR (2022)

The validation results indicate that PopulationSim does reasonably well in matching the controls overall, as can be observed by the close to zero mean percentage differences across all controls. The standard deviation is also quite low for all the controls. However, some deviation can be observed for the person age group controls.

APPENDIX C. DAYSIM INPUT FILES

Input Micro-zone File

The input MAZ file, "1_Inputs\8_DaySim\02_Parcel\maz_2022_parks.csv", provides landuse data input to DaySim. The input file is created from a shapefile provided by Tulare CAG.

Table 84 presents a list of fields that are needed in the MAZ shapefile to be exported into the MAZ input file. It also describes the action required for a field, whether you need to add it as a new field or it already exists, and the field data type. If a new field is required, the corresponding field in the shapefile is provided.

TABLE 84. MAZ SHAPEFILE FIELDS

DAYSIM FIELD	DESCRIPTION
Parcelid	Unique parcel ID
xcoord_p	X coordinate of parcel centroid
ycoord_p	Y coordinate of parcel centroid
sqft_p	Square footage of parcel
taz_p	TAZ of parcel
hh_p	Total households in parcel
block_p	Census block of parcel
stugrd_p	Student gradeschool enrollment
stuhgh_p	Student high school enrollment
stuuni_p	Student university enrollment
empedu_p	NAICS 61
empfoo_p	NAICS 72
empgov_p	NAICS 92

DAYSIM FIELD	DESCRIPTION
empind_p	NAICS 22,31-33, 42, 48-49
empmed_p	NAICS 62
empofc_p	NAICS 51-56
empret_p	NAICS 44-45
empsvc_p	NAICS 71, 81
empoth_p	NAICS 11, 21, 23
emptot_p	Total employment
parkdy_p	
parkhr_p	
Ppricdyp	
Pprichrp	

This formatted CSV file should be name “maz_2022_parks.csv” and be placed in the model directory under the folder “1_Inputs\8_DaySim\02_Parcel”.

Transit Stops File

The transit stops file is created using the input transit network and is automated in the input processing step of the model. The module “Scenario Prepper” inside the ‘DaySimInputPrep’ module (Figure 40) contains the process to generate this file. It must be run after the network processor. The network is exported to a shapefile as links and nodes. A python script reads the node shapefile and processes the transit line file to read all the stop nodes with their associated transit mode. This information is joined to the coordinate data of the nodes and exported in the format shown in Figure 41.

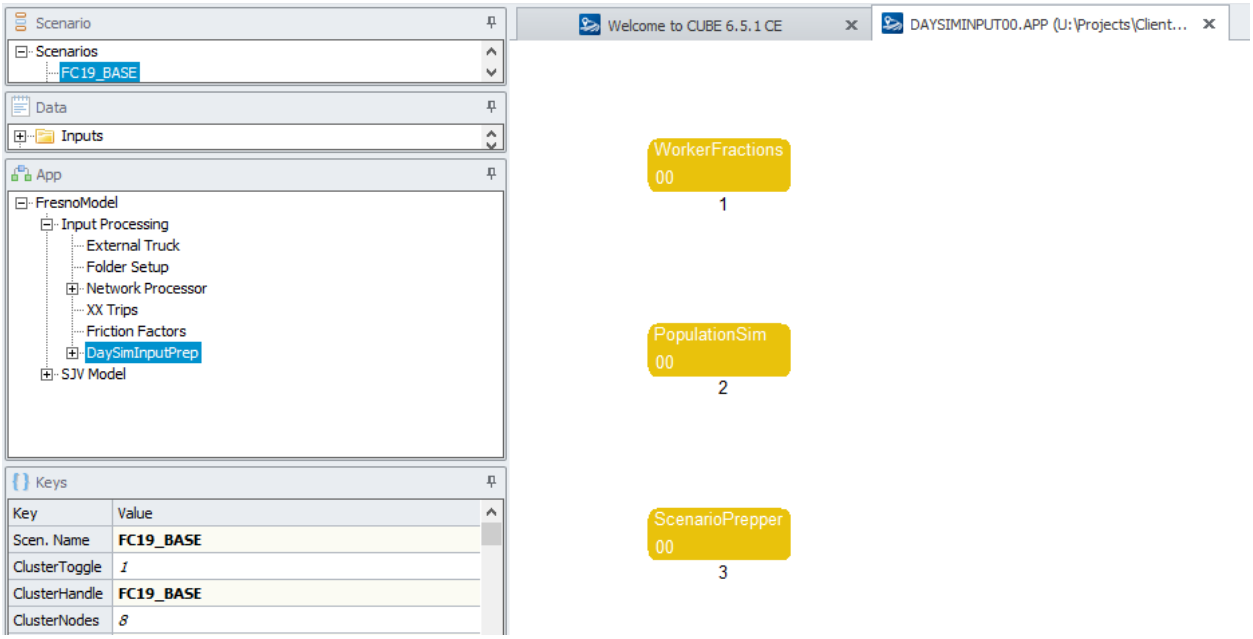


FIGURE 40. DAYSIM INPUT PREP MODULE

The stops file is in the following format:

id	mode	xcoord_p	ycoord_p
1	1	6309142	2167872
2	1	6309117	2166434
3	1	6309112	2165240
4	1	6307677	2165242
5	1	6306517	2165245
6	1	6306529	2166560
7	1	6306503	2167889
8	1	6309149	2169329
9	1	6309154	2170526
10	1	6309171	2171830
11	1	6307831	2173200
12	1	6306543	2173215
13	1	6305216	2173227
14	1	6303896	2173225
15	1	6303887	2174830

FIGURE 41. TRANSIT STOPS FILE FORMAT

Intersections File

The intersection file provides number of roads (links) at an intersection (node). The all-street network in the model is a dual road network where a two-way street is represented as one link for each direction. A two-way road is represented by two links representing to and from direction. Therefore, this network cannot simply be used to calculate number of links at an intersection. In the DaySim Input Prep Step in the cube catalog, the processed scenario network is exported as a shapefile and a python script is run to clean the network of two-way links, and determine the correct intersection density. The file is formatted and saved in the model inputs folder.

OpenSpace and Parks File

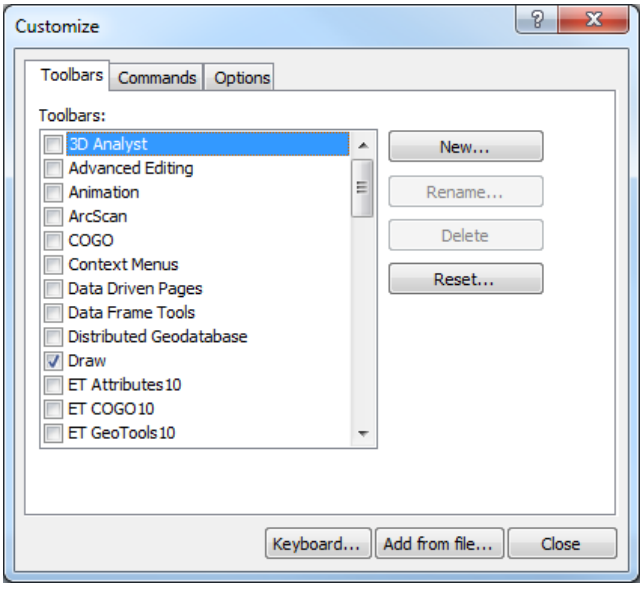
An ArcTool (ArcMap based) is created to process data in shapefile format and generate information in DaySim format. The tool is available on the Tulare ABM GitHub repository under tools.

Downloading and Installing ET Geowizards:

Continue to the next section if the current version of "ET Geowizards" is installed on the work computer.

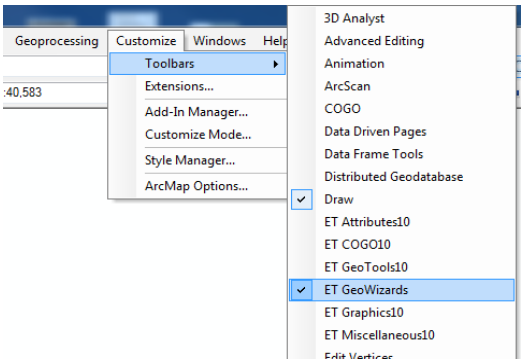
Following the steps below:

1. Locate the "ET Geowizards" installer (which can be found at the following Web address: http://www.ian-ko.com/ . *Note: Makes sure that correct installer is downloaded for the specific computer and the specific version of ArcGIS being run on that computer.
2. Install the software by following the instructions that accompany the installer file.
3. Open a new project in ArcMap
4. Click the "Customize" dropdown menu at the top of the ArcMap window→ hover over "Toolbars"→



Select “ET Geowizards” in the adjacent dropdown menu (see graphic to the right). Feel free to doc the “ET Geowizards toolbar”.

5. If “ET Geowizards” does not appear in the aforementioned dropdown menu, please recheck that the installer ran correctly. If it did install correctly, navigate to the bottom of the list of “Toolbars” and select “Customize” → a new window will appear which should look like the graphic to the right. Click on the “Add from file….” Button, and navigate to the *.dll file created by the Geowizards installer.



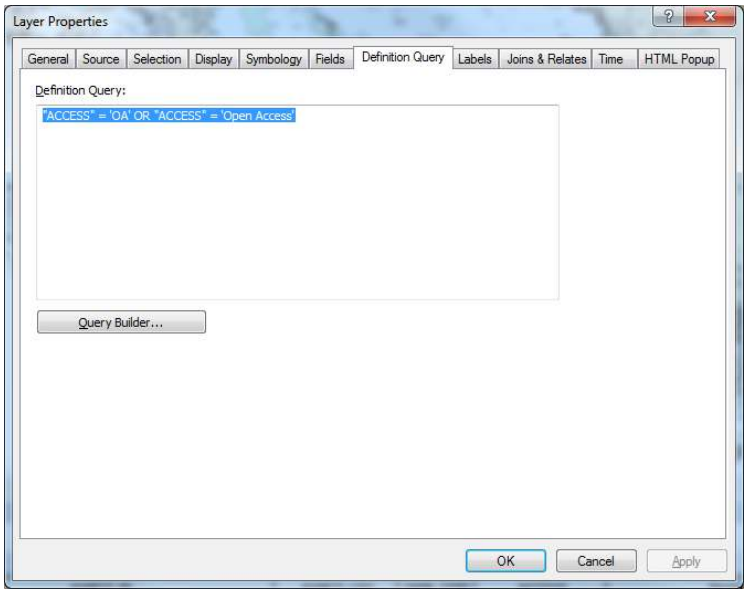
Finding Open source Representations of Protected Areas

Continue to the next section if adequate spatial representations (in polygon format) of the region’s open space areas have already been obtained.

Protected areas are locations which receive protection because of their recognized natural, ***ecological*** and/or cultural benefits. The USGS, as well as some state government agencies, actively monitor and inventory these areas. Spatial representations of California’s “Protected Areas” can be found here: *http://www.calands.org/* . For spatial representations of “Protected Areas” at a national level, follow this link: *http://gapanalysis.usgs.gov/data/padus-data/* *Note, the following steps use the California data, additional notes will supply directions for using the national data.

6. Navigate to the “CPAD: California Protected Areas Database” website using the link above. Download the most recently updated geospatial data. *Suggestion: download the data in *gdb format.
7. *Note: if using the national database, navigate to the second web address provided and download the equivalent data.
8. Once the data has completed downloading, open a new project in ArcMap and use the “Add Data” button to add the shapefile (or feature class) named in the following convention “*_Holdings” (this data will be referred to as “_Holdings”).
9. Right click on the “_Holdings” file in the “Table of Contents” and select properties.
10. Navigate to the “Definition Query” tab.
11. In the box under “Definition Query:” write in the following expression:

"ACCESS" = 'OA' OR "ACCESS" = 'Open Access'

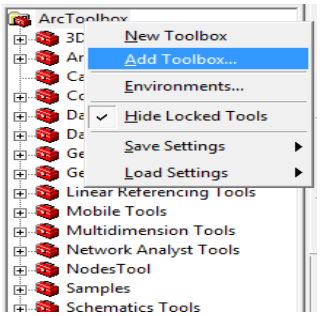


*Note: Users of the "national" database will have to determine their own qualifications for the equivalent of California's "Open Access" space

12. Add the shapefile/feature class representing the region's extent (forward referred to in the documentation as Extent").

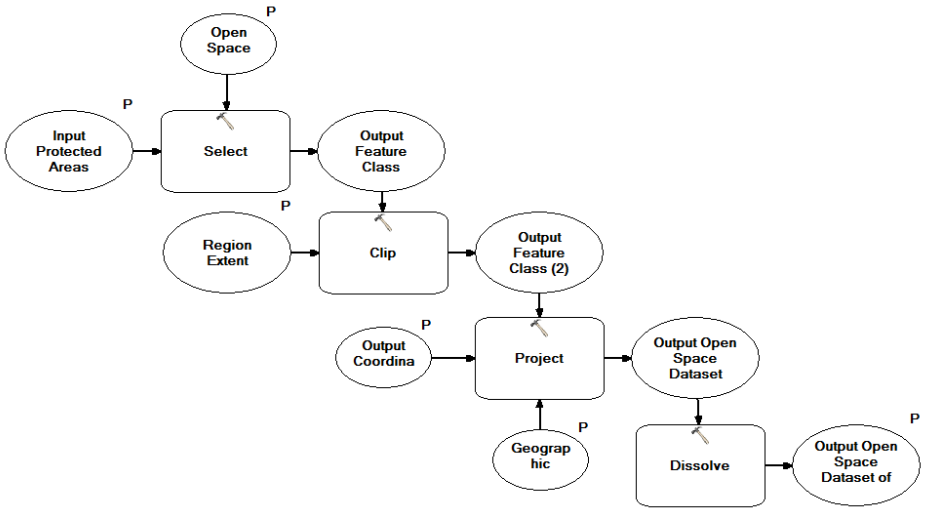
Adding the "OpenspaceTool" to ArcToolbox

An ArcTool was created to process the data created in the previous steps.



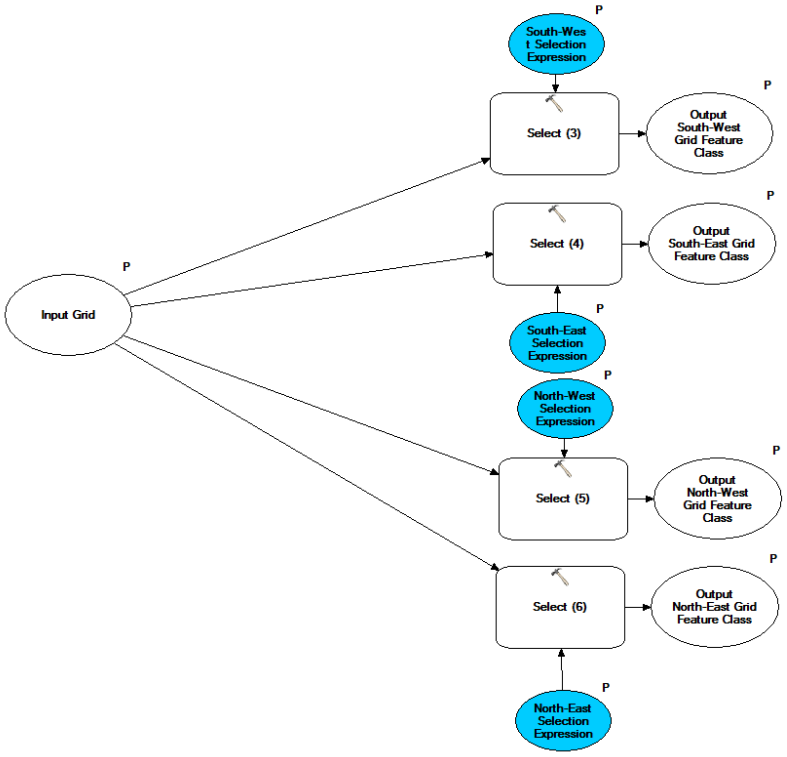
13. Open the ArcToolbox 
14. Right Click the "ArcToolbox" folder at the top of the directory and select "Add Toolbox"
15. Locate the "ParksTool" Toolbox on the computer and select "Ok"

**Note: If problems arise with the "OpenspaceTool" Model consult the below image to understand the processes that make up the tool's operation.*



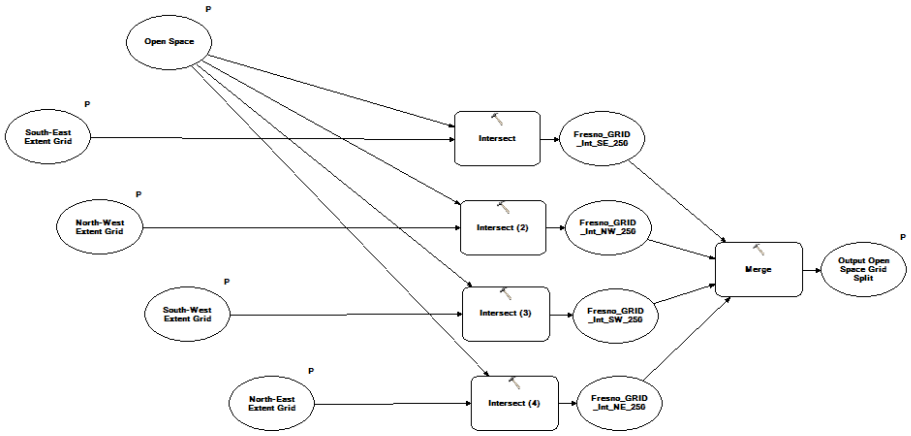
The tool first Selects the data by attribute to subset the “Open Space” data from the larger umbrella of “Protected Areas” (it is up to the user to decide what “attribute” in the database designates a feature as “Open Space”, for the California Data we suggest the "ACCESS" field where attributes are either 'OA' or 'Open Access'); The tool then clips the subset to the extent of the region in question; Then, the tool projects the data into the proper projection (reminder: all data should be prepared in a common projection); Last, the output is dissolved into one feature, this output constitutes all the “Open Space” in the region in question.

*Note: If problems arise with the “Grid1” Model consult the below image to understand the processes that make up the tool’s operation.



The tool merely selects data from the input grid and creates 4 new shapefiles/feature classes.

*Note: If problems arise with the “Grid2” Model consult the below image to understand the processes that make up the tool’s operation.



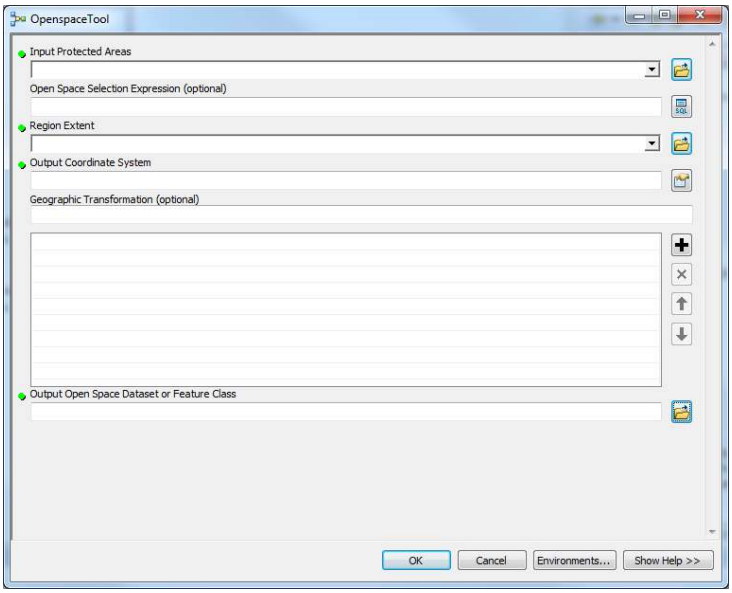
Based on user inputs the tool runs intersect the “Open Space” data with each of the 4 distinct sub-regions; once the data has been intersected, the 4 sub-regions are merged together.

Refining the "Protected Areas" data into "Open Space" Representations

NOTE: Steps 16-19 are not needed as Tulare CAG provided open space that are only in Tulare County.

The following steps will use the protected areas data, "OpenspaceTool", and Geowizards Toolbar to refine and separate the data into sections.

16. Open the "OpenspaceTool" Model in the "ParksTool", a window like the one below should appear.



17. Submit the form with the following inputs:

    -Input Protected Areas: -"_HOLDINGS" feature class

    -Open Space Selection Expression (optional):-*"ACCESS" = 'OA' OR "ACCESS" = 'Open Access'*

    -Region Extent -"Extent" feature class

    -Output Coordinate System -Default Projection for Project

    -Geographic Transformation -Leave blank unless asked to fill

    -Output Open Space Dataset or Feature Class - Name/Location of Open space feature class (forward referred to in the documentation as " Extent Open Space")

18. Click "OK".

**Note: if an error occurs run the "Select Tool" → "Clip Tool" → "Project Tool" and "Dissolve Tool" to get the same results*

19. Make sure the new feature class, “Extent OpenSpace”, is added to the ArcMap display. Remove all other data in the table of contents. This new feature class represents all the “Open Space” in the region in question.

Refining “Open Space” data to create a DAYSIM Input File

The following steps: 1.) Divide the region into a grid with 250’ by 250’ grid cells; 2.) Intersect the open space data, that has already been created, with the new grid; 3.) Converts the intersected “Open Space” data into centroid points that contain area data.

While ET Geowizards is a useful tool, there are many limitations to the tasks that the software can run. Many of the following steps concern getting around these limitations to create data that is as fine as possible. Feel free to attempt condensing the following steps into a single step (this may be possible for smaller, and/or less irregularly shaped, regions).

1. Open the “ParksExtent” excel workbook.

   *Note: the excel document will be used to calculate some values to guide the production of the grid.

2. Return to ArcMap and Click the “ET Geowizards” Toolbar 

3. Navigate to the “Sampling” Tab → Double Click on the “Vector Grid” tool. A window similar to the one below will appear.



4. For object #1 “Select source for the initial GRID extent” use the “Extent OpenSpace” feature class.
5. For object #2 “Specify output feature class or shapefile” use a name and location of users choice (here forward referred to as “Extent_Grid”) → Click on the “Next>” button.
6. For #3 “Select output coordinate system”, click the “Select Output coordinate system” button and ensure that the coordinate system matches the default coordinate system for

the project. If it does not, change the projection to match the default projection for the project.

7. For object #4 “Select GRID type” select the option for “Polygon”. Click on the “Next>” button. The window should now look like this:



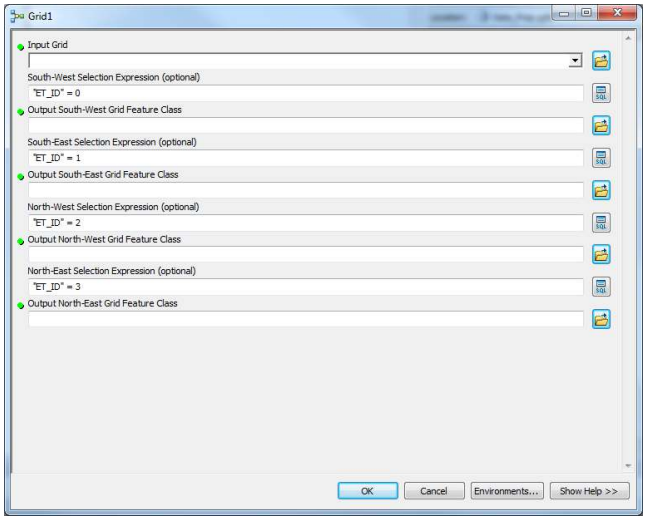
8. Object #5 “Grid extents” will need to be updated. The excel workbook generates the required values based on the region specific data. Copy the “X Min”, “X Max”, “Y Min”, and “Y Max” values into the appropriate cells in the excel workbook. The work book generates new “X Max” and “Y Max” values, copy and paste the new values into their appropriate places in Object #5.

   The values can be copied by checking “Change“. This will turn boxes to edit box and you can copy value from each cell and paste into the excel workbook.

9. For Object #6 “Cell Size”, fill in the “X” and “Y” dimensions based on the values in the excel workbook. Click the “Finish” button.

10. Once the Geowizards processes have finished running, make sure that the new feature class, “Extent Grid,” is added to the display. The region should have been split into 4 different regions: two north and two south.

11. *Note: Given the limitation of the Geowizards software, the entire region can rarely ever be converted to a 250' by 250' Grid in one step. One can make an attempt at creating the 250' by 250' Grid in one step, but should not be surprised if/when the software fails.
12. Double click on the "Grid1" Model within the "ParksTool" Toolbox. A window similar to the one to the right will open.



13. *Note, the "Grid1" Tool separates the "Extent Grid" into 4 separate files. The defaults identify Geowizards conventions to separate the region into SE, SW, NE, and NW regions. If this tool fails to run, the step can be replicated by manually selecting each region, and exporting the selected data to shapefile.

    Submit the form with the following inputs:

    -Input Grid - "Extent_Grid" feature class

    - South-West Selection Expression (optional) - "ET_ID" = 0

    -Output South-West Grid Feature class - Name/Location of choosing (forward referred to as "Extent_Grid_SW")

    - South-East Selection Expression (optional) - "ET_ID" = 1

    -Output South-East Grid Feature class- Name/Location of choosing (forward referred to as "Extent_Grid_SE")

    - North-West Selection Expression (optional) - "ET_ID" = 2

    -Output North-West Grid Feature class - Name/Location of choosing (forward referred to as "Extent_Grid_NW")

    - North-East Selection Expression (optional) - "ET_ID" = 3

    -Output North-East Grid Feature class - Name/Location of choosing (forward referred to as "Extent_Grid_NE")

14. The following steps will subdivide each of the 4 regions created by step #19 into 250 foot grid cells. Re-open the "ET Geowizards" form and navigate to the "Vector Grid" tool. Submit the form once for each region using the following inputs (* represents each of the four subdivisions):

    #1 "Select source for the initial GRID extent" - once each for all "Extent_Grid_*"

#2 “Specify output feature class or shapefile” - Name/Location of users choosing

(forward referred to as “Extent_Grid_*_250”)

#3 “Select output coordinate system”- Check that it matches the default projection for which all data is being prepared

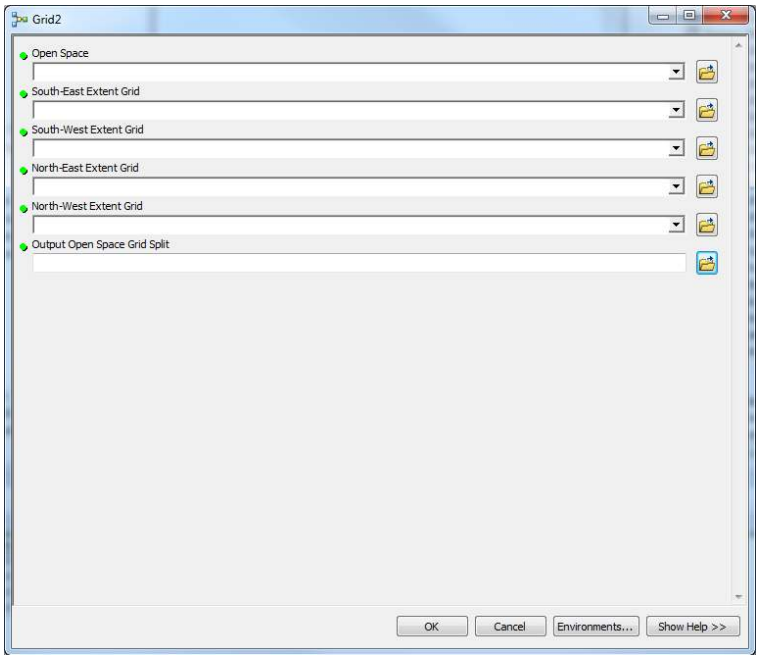
#4 “Select GRID type”- Polygon

#5 “Grid extents” - Use default

#6 “Cell Size” - both X and Y should = 250

Once generated, make sure all the “Extent_Grid_*_250” shapefiles are present in the ArcMAP display.

15. Double click the “Grid2” model within the “ParksTool” Toolbar. A window should appear matching the image below.



Fill in the appropriate fields with the following data:

“Open Space” - “Extent Open Space” feature class

“South-East Extent Grid” -“Extent_Grid_SE_250” feature class

“South-West Extent Grid” -“Extent_Grid_SW_250” feature class

“North-East Extent Grid” -“Extent_Grid_NE_250” feature class

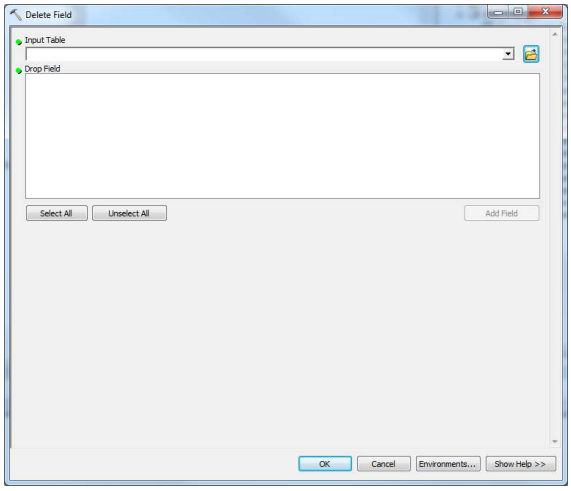
"North-West Extent Grid" -"Extent_Grid_NW_250" feature class

"Output Open Space Grid Split" - Name/Location of choosing

(forward referred to as "Extent Open Space 250")

Click the "OK" button once all fields have been properly filled. Make sure the feature class generated through this tool, "Extent Open Space 250", is added to the display.

16. Navigate to the "Delete Field" Tool in the ArcToolbox ("Data Management Tools" → "Fields" → "Delete Field"). A form like the image below should open.



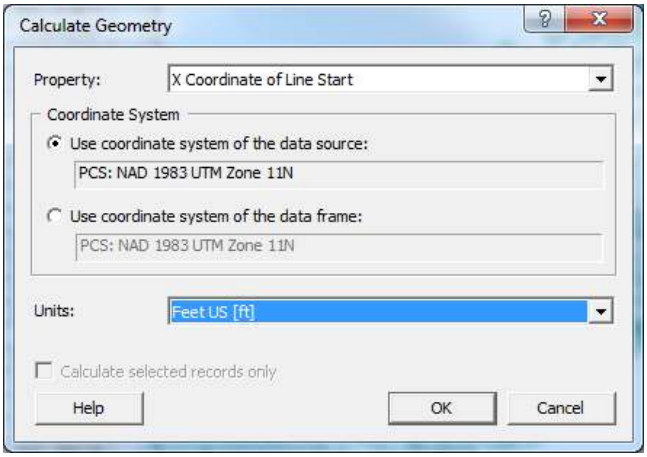
17. The "Input Table is the "Extent Open Space 250" feature class. Check the box next to all the fields present in the "Drop Field" box. Click Ok.

18. Open the "Extent Open Space 250" feature class 's attribute table to check that all fields ("ID", "FID", "Name", etc.) have been removed. **Note: some fields are structurally mandatory and cannot be removed.*

19. In the Attribute Table menu select  and click on the option to "Add Field". The "Name" will be "sqft" and the "Type" will be Long Integer.

20. Repeat the above step and add fields "xcoord_p" (Long) and "ycoord_p" (Long)

21. Right click on the “sqft” column heading and click the option to “Calculate Geometry…” The “property to be calculated” is “Area”; The Coordinate System choice is “Use coordinate system of the data source” and the Units should be “Square Feet US [sq ft]”. Click “OK”



22. Right click on the “xcoord_p” column heading and click the option to “Calculate Geometry…” The “property to be calculated” is “X Coordinate of Centroid”; The Coordinate System choice is “Use coordinate system of the data source” and the Units should be “Feet US [sq ft]”. Click “OK”
23. Right click on the “ycoord_p” column heading and click the option to “Calculate Geometry…” The “property to be calculated” is “Y Coordinate of Centroid”; The Coordinate System choice is “Use coordinate system of the data source” and the Units should be “Feet US [sq ft]”. Click “OK”.

This will give you the openspace and parks data in required DaySim format.

Future Year DaySim Inputs

Table 85 provides instructions on what DaySim inputs to update for a future scenario (DaySim inputs are here: 1_Inputs\8_DaySim):

TABLE 85. INSTRUCTIONS FOR FUTURE YEAR DAYSIM INPUTS

INPUT LOCATION	INSTRUCTION
01_TAZ_Index	Don’t need to change unless your scenario has updated zone system.
02_Parcel	Need to update three input files. Open space and park file would not need to be changed, unless you know open space and park information for the future scenario which is unlikely. This appendix provides instructions to create these files: • maz_20XX_parks.csv • intersections_20XX_nohwys.csv. This will be updated automatically.

INPUT LOCATION	INSTRUCTION
	• stops_transit_20XX.csv. This will be updated automatically.
03_Household	Need to update. Output of PopSim converted to DaySim format. If PopSim is run, this file will be updated automatically.
04_Person	Need to update. Output of PopSim converted to DaySim format. If PopSim is run, this file will be updated automatically.
05_ixxi	Update if you have share of XI and IX workers by zone (XI-outside workers working in Tulare; IX-resident workers going out for work). Otherwise, use the same as base year
06_Roster	Will automatically be updated in the input processing step.
07_Coefficients	Don't need to change.
10_ParkAndRide	Change only if you have updated park and ride locations in the region. The file name should be updated to reflect the scenario year.

APPENDIX D. DAYSIM CONFIGURATION

This appendix describes the settings used in running DaySim. Note that a Cube script creates a configuration file before a DaySim run. So, any change to a setting, filename or file path needs to be done in two Cube scripts: DAMAT00F.S (Configuration_shadow_price.properties) and DAMAT00A.S (Configuration.properties). Both configuration files have the same settings, except that some models are turned off in shadow price runs. Table 86 presents the settings in the configuration files. The column "VALUE" contains the setting as in the Configuration.properties.

TABLE 86. DAYSIM CONFIGURATION FILE (CONFIGURATION.PROPERTIES)

SETTING	VALUE	DESCRIPTION
Sampling		
HouseholdSampling RateOneInX	1	The denominator of the fraction of households in the input sample to be simulated (e.g., 100 is for 1/100)
HouseholdSampling StartWithY	1	The household number to simulate first (e.g., 2, in combination with 100 above would simulate HH 2, 102, 202, etc.)
SamplingWeights SettingsType	SamplingWeights SettingsSimple	
General Path Settings		
BasePath	[CATALOG_DIR]\1_Inputs\8_DaySim	Base directory; all DaySim inputs will be stored
OutputSubpath	[SCENARIO_DIR]\11_DaySim	Output folder path; DaySim outputs will be generated in this directory
WorkingDirectory	[SCENARIO_DIR]\11_DaySim\working	Directory for other DaySim outputs. DaySim generates other outputs in this directory.
WorkingSubpath	[SCENARIO_DIR]\11_DaySim\working	Directory path for other DaySim outputs
Threading Settings		
NProcessors	48	Number of processors (threads) to be used
NBatches	50	
Parcel Buffered Data		

SETTING	VALUE	DESCRIPTION
ImportParcels	true	Flag to import parcel file
RawParcelPath	[SCENARIO_DIR]\Tulare_mzbuffer_allstreets_2022.dat	Buffered parcel file name
RawParcelDelimiter	32	Buffered parcel file delimiter (9=TAB, 32=space, 44=comma)
UseParcelLandUseCodeAsSquareFeetOpenSpace	True	Switch for using open space square feet data from land-use type field (“lutype_p”) in the parcel file
Roster Impedance		
UseMicrozoneSkimsForBikeMode	TRUE	Switch for using bike skims by microzones
RosterPath	.\06_Roster\roster_mz.csv	Name of roster CSV file, including full directory path
RosterCombinations Path	.\06_Roster\roster_combinations.csv	Name of valid roster combinations CSV file, including full directory path
UseShortDistance NodeToNode Measures	true	TRUE to use node-to-node distance in accessibility measures calculations
RawParcelNode Path	[SCENARIO_DIR]\maz_node_2022.dat	File name providing the nearest node ID for a parcel
RawParcelNode Delimiter	32	Delimiter of the input parcel node file (9=TAB, 32=space, 44=comma)
NodeIndexPath	[SCENARIO_DIR]\WALK_SKIM_MAZ_MAZ_SORTED_INDEX.TXT	File name for the file providing, for every node ID, starting and end record indices in node short-distance file (NodeDistancePath)
NodeIndexDelimiter	32	Delimiter of the node index file (9=TAB, 32=space, 44=comma)
NodeDistances Path	[SCENARIO_DIR]\WALK_SKIM_MAZ_MAZ_SORTED.TXT.dat	File name for the file providing short distances for node pairs

SETTING	VALUE	DESCRIPTION
MaximumBlending Distance	3	The maximum (network) Distance for which short-distance blending should be used, in miles. For short trips, DaySim uses a linear combination of parcel-to-parcel distances from an all streets network and zone-zone distances from the skim matrices. When the zone-zone skim distance exceeeds this MaximumBlendingDistance, DaySim stop using the parcel-parcel distance and just use the zone-zone from the skims.
AllowNodeDistanceAsymmetry	True	
UseShortDistance CircuityMeasures	false	true to use circuity distance in accessibility measures calculations
Value of Time		
VotVeryLowLow	0	Boundary between VeryLow and Low VOT groups, in monetary units per hour
VotLowMedium	6	Boundary between Low and Medium VOT groups, in monetary units per hour
VotMediumHigh	12	Boundary between Medium and High VOT groups, in monetary units per hour
VotHighVeryHigh	9999	Boundary between High and VeryHigh VOT groups, in monetary units per hour
Global Settings		

SETTING	VALUE	DESCRIPTION
DataType	Default	Identifies the presence of client-specific household input data (currently only used for Actum)
ChoiceModelRunner	Default	Type of choice model runner
Settings	DefaultSettings	
Debug Settings		
TraceSimulatedChoice Outcomes	false	true to trace simulated choice outcomes
TraceModelResult Validity	false	true to trace model result
InvalidAttempts BeforeTrace	100	
InvalidAttempts BeforeContinue	4	
ReportInvalidPerson Days	false	true to report invalid person days during a run
Shadow Price Settings for work and school locations		
ShouldUse ShadowPricing	true	true to apply shadow pricing for the Work Location and School Location models
UsualWorkParcel Threshold	5	Parcel-specific threshold used in the shadow price calculations of usual work location
UsualSchoolParcel Threshold	5	Parcel-specific threshold used in the shadow price calculations of usual school location
UsualUniversity ParcelThreshold	5	Parcel-specific threshold used in the shadow price calculations of usual university location
NumberOfParcels InReportDiffs	10	Control for printing out reporting on shadow price calculations
UsualWork PercentTolerance	0	Percentage tolerance to trigger work parcel shadow price adjustment
UsualWork AbsoluteTolerance	0	Absolute tolerance to trigger work parcel shadow price adjustment

SETTING	VALUE	DESCRIPTION
UsualSchool PercentTolerance	0	Percentage tolerance to trigger school parcel shadow price adjustment
UsualSchool AbsoluteTolerance	0	Absolute tolerance to trigger school parcel shadow price adjustment
UsualUniversity PercentTolerance	0	Percentage tolerance to trigger university parcel shadow price adjustment
UsualUniversity AbsoluteTolerance	0	Absolute tolerance to trigger university parcel shadow price adjustment
Shadow Price Settings		
ShadowPriceDelimiter	9	Delimiter of the shadow price files (9=TAB, 32=space, 44=comma)
ShouldUse ParkAndRide ShadowPricing	TRUE	true to use park-and-ride shadow pricing in the model
ParkAndRide ShadowPrice Delimiter	9	Delimiter of the park-and-ride shadow pricing file (9=TAB, 32=space, 44=comma)
ParkAndRide ShadowPrice MaximumPenalty	-3	
ParkAndRide ShadowPriceTime Spread	20	
ParkAndRide ShadowPriceStep Size	0.15	
Model Run Flags		
Should Run Choice Models	true	A toggle switch to run all choice models (true can be overridden by switches below and by individual model switches)
ShouldRunHouseholdModels	true	A toggle switch to run household-level models (used to perform partial runs, TRUE can be overridden by individual model switches)
ShouldRun PersonModels	true	A toggle switch to run person-level models (used to perform partial runs, true can be overridden by individual model switches)
ShouldRun PersonDayModels	true	A toggle switch to run person-day-level models (used to perform partial runs, TRUE can be overridden by individual model switches)
ShouldRunTour Models	true	A toggle switch to run tour-level models (used to perform partial runs, true can be overridden by individual model switches)

SETTING	VALUE	DESCRIPTION
ShouldRunTourTripModels	true	A toggle switch to run trip-level models (used to perform partial runs, true can be overridden by individual model switches)
ShouldRunSubtourModels	true	A toggle switch to run subtour level models (used to perform partial runs, true can be overridden by individual model switches)
ShouldRunSubtourTripModels	true	A toggle switch to run trip level models for subtours (used to perform partial runs, true can be overridden by individual model switches)
DestinationScale	1	For a model that uses parcels, this should be set at 0. If the model uses blocks (microzones) instead, then set this at 1, and it allows intra-microzone trips. But, with it set at 0, it does not allow intra-microzone trips.
ShowRunChoiceModelsStatus	true	true to show percentage of households simulated on the screen during simulation
ShouldRunRawConversion	true	If true, DaySim will convert and input all of the raw data files
Random Seed Settings		
RandomSeed	1234	Initial seed value for the random number generator
ShouldSynchronize RandomSeed	true	If true, DaySim will use a seed for each person/tour/trip/model combination that depends only on the initial seed
Inernal-External Workers Settings		
IxxiPath	.\05_ixxi\Tulare_worker_ixxifractions.csv	Input worker IXXI fractions file name
IxxiDelimiter	44	Delimiter for the input file (9=TAB, 32=space, 44=comma)
IxxiFirstLineIsHeader	False	If true, DaySim expects a header record for this file (all other raw data files have headers)
Park-and-Ride Nodes		
RawParkAndRide NodePath	.\10_ParkAndRide\p_r_Nodes_2022.dat	Input park-and-ride node file; if none given, the park-and-ride mode will not be available)

SETTING	VALUE	DESCRIPTION
RawParkAndRideNodeDelimiter	9	The delimiter for the input file (9=TAB, 32=space, 44=comma)
ImportParkAndRideNodes	True	If true, the raw file should be imported (always true if ShouldRunRawConversion=true)
ShouldReadParkAndRideNodeSkim	False	
Zones		
ImportZones	True	If true, the zone file should be imported (always true if ShouldRunRawConversion=true)
RawZonePath	.\01_TAZ_Index\Tulare_taz_indexes.dat	Input zone index file name
RawZoneDelimiter	9	The delimiter for the input zone index file (9=TAB, 32=space, 44=comma)
RawHouseholdPath	.\03_Household\Tulare_household_sampled.dat	Input household file
RawHouseholdDelimiter	32	The delimiter for the input household file (9=TAB, 32=space, 44=comma)
RawPersonPath	.\04_Person\Tulare_person_sampled.dat	Input person file
RawPersonDelimiter	32	The delimiter for the input household file (9=TAB, 32=space, 44=comma)
DaySim Output Files		
ImportHouseholds	True	
OutputHousehold Path	_household.tsv	The full path name for the household output file
OutputHousehold Delimiter	9	Delimiter for the household output file (9=TAB, 32=space, 44=comma)
ImportPersons	True	
OutputPersonPath	_person.tsv	Person output filename

SETTING	VALUE	DESCRIPTION
OutputPerson Delimiter	9	Delimiter for the person output file (9=TAB, 32=space, 44=comma)
OutputHousehold DayPath	_household_day.tsv	
OutputHousehold DayDelimiter	9	Household day output filename
OutputPersonDay Path	_person_day.tsv	Person day output filename
OutputPersonDay Delimiter	9	Delimiter for the person day output file (9=TAB, 32=space, 44=comma)
OutputTourPath	_tour.tsv	Tour output filename
OutputTourDelimiter	9	Delimiter for the tour output file (9=TAB, 32=space, 44=comma)
OutputTripPath	_trip.tsv	Trip output filename
OutputTripDelimiter	9	Delimiter for the trip output file (9=TAB, 32=space, 44=comma)
OutputJointTour Delimiter	9	Delimiter for the join tour output file (9=TAB, 32=space, 44=comma)
OutputJointTour Path	_joint_tour.tsv	Joint tour output filename
OutputFullHalfTour Path	_full_half_tour.tsv	Full half-tour output filename
OutputFullHalfTour Delimiter	9	Delimiter for the full half-tour output file (9=TAB, 32=space, 44=comma)
OutputPartialHalf TourPath	_partial_half_tour.tsv	Partial half-tour filename
OutputPartialHalf TourDelimiter	9	Delimiter for the partial half-tour output file (9=TAB, 32=space, 44=comma)
ShouldOutputTDM TripList	false	
Logsums		

SETTING	VALUE	DESCRIPTION
ShouldLoadAggregate LogsumsFromFile	False	true to read the aggregate logsums from a file generated by a previous run (otherwise recalculated)
ShouldOutput AggregateLogsums	True	true to write the aggregate logsums to a file for a subsequent run
OutputAggregate LogsumsPath	aggregate_logsums.dat	File name to write out aggregate logsums
ShouldLoadSampling WeightsFromFile	False	true to read the precalculated sampling weights from a file generated by a previous run (otherwise recalculated)
ShouldOutputSampling Weights	False	true to write the precalculated sampling weights to a file for a subsequent run
OutputSampling WeightsPath	sampling_weights.dat	File name write out sampling weights
Model Coefficients		
WorkLocationModelSampleSize	100	The maximum number of destinations to be sampled for this model
WorkLocationModelCoefficients	.\07_Coefficients\WorkLocationCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the work location model
ShouldRunWorkLocationModel	True	A toggle switch to run the work location model; can be used for partial runs, TRUE can be overridden by more general switches above

SETTING	VALUE	DESCRIPTION
IncludeWorkLocationModel	True	false to always exclude this model from the set of models to be run. Set both - this and ShouldRUnWorkLocatinModel - to the same (true or false).
SchoolLocationModelSampleSize	100	The maximum number of destinations to be sampled for this model
SchoolLocationModelCoefficients	.\07_Coefficients\SchoolLocationCoefficients_SACOG-v1.8.F12	Path of the coefficient file for the school location model
ShouldRunSchool LocationModel	True	A toggle switch to run the school location model; can be used for partial runs, TRUE can be overridden by more general switches above
IncludeSchool LocationModel	True	false to always exclude this model from the set of models to be run. Set both - this and ShouldRunSchoolLocationModel - to the same (true or false).
PayToParkAtWorkplace ModelCoefficients	.\07_Coefficients\PayToParkAtWorkplaceCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the pay to park and workplace model
ShouldRunPayTo ParkAtWorkplace Model	True	A toggle switch to run the pay-to-park and workplace model; can be used for partial runs, true can be overridden by more general switches above

SETTING	VALUE	DESCRIPTION
IncludePayTo ParkAtWorkplace Model	True	false to always exclude this model from the set of models to be run. Set both - this and ShouldRunPayToParkAtWorkplaceModel - to the same (true or false).
TransitPassOwnership ModelCoefficients	.\07_Coefficients\ TransitPassOwnership Coefficients_SACOG-v1.5.F12	Path of the coefficient file for the transit pass ownership model
ShouldRunTransit PassOwnershipModel	True	A toggle switch to run the transit pass ownership model; can be used for partial runs, true can be overridden by more general switches above
IncludeTransit PassOwnershipModel	True	false to always exclude this model from the set of models to be run. Set both - this and ShouldRunTransitPassOwnershipModel - to the same (true or false).
AutoOwnership ModelCoefficients	.\07_Coefficients\ AutoOwnershipCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the auto ownership model
ShouldRun AutoOwnershipModel	True	A toggle switch to run the auto ownership model; can be used for partial runs, true can be overridden by more general switches above

SETTING	VALUE	DESCRIPTION
IndividualPerson DayPatternModel Coefficients	.\07_Coefficients\IndividualPersonDayPatternCoefficients_SACOG-v1.8.F12	Path of the coefficient file for the individual person-day pattern model
ShouldRunIndividual PersonDayPattern Model	True	A toggle switch to run the individual person day pattern model; can be used for partial runs, true can be overridden by more general switches above
PersonExactNumberOf ToursModel Coefficients	.\07_Coefficients\PersonExactNumberOfToursCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the person exact number of tours model
ShouldRunPerson ExactNumberOf Tours Model	True	A toggle switch to run the person exact number of tours model; can be used for partial runs, true can be overridden by more general switches above
WorkTourDestination ModelSampleSize	100	Maximum number of destinations to be sampled for the work tour destination model
WorkTourDestination ModelCoefficients	.\07_Coefficients\WorkTourDestinationCoefficients_SACOG-v1.8.F12	Path of the coefficient file for the work tour destination model
ShouldRunWorkTour DestinationModel	True	
OtherTourDestination ModelSampleSize	100	Maximum number of destinations to be sampled for the other tour destination model
OtherTourDestination ModelCoefficients	.\07_Coefficients\OtherTourDestinationCoefficients_SACOG-v1.8.F12	Path of the coefficient file for the tour destination model

SETTING	VALUE	DESCRIPTION
ShouldRunOtherTourDestinationModel	True	A toggle switch to run the tour destination model; can be used for partial runs, true can be overridden by more general switches above
WorkBasedSubtourGenerationModelCoefficients	.\07_Coefficients\WorkbasedSubtourGenerationCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the work-based subtour generation model
ShouldRunWorkBasedSubtourGenerationModel	True	A toggle switch to run the work-based subtour generation model; can be used for partial runs, true can be overridden by more general switches above
WorkTourMode ModelCoefficients	.\07_Coefficients\WorkTourModeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the work tour mode model
ShouldRunWorkTour ModeModel	True	A toggle switch to run the work tour mode model; can be used for partial runs, true can be overridden by more general switches above
SchoolTourMode ModelCoefficients	.\07_Coefficients\SchoolTourModeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the school tour mode model
ShouldRunSchool TourModeModel	True	A toggle switch to run the school tour mode model; can be used for partial runs, true can be overridden by more general switches above

SETTING	VALUE	DESCRIPTION
WorkBasedSubtour ModeModelCoefficients	.\07_Coefficients\ WorkBasedSubtou rModeCoefficients _SACOG-v1.5.F12	Path of the coefficient file for the work-based subtour mode model
ShouldRunWorkBased SubtourModeModel	True	A toggle switch to run the work-based subtour mode model; can be used for partial runs, true can be overridden by more general switches above
EscortTourMode ModelCoefficients	.\07_Coefficients\ EscortTourModeC oefficients_SACO G-v1.5.F12	Path of the coefficient file for the escort tour model model
ShouldRunEscort TourModeModel	True	A toggle switch to run the escort tour model model; can be used for partial runs, true can be overridden by more general switches above
OtherHomeBased TourModeModel Coefficients	.\07_Coefficients\ OtherHomeBased TourModeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the other home-based tour mode model
ShouldRunOther HomeBasedTour ModeModel	True	A toggle switch to run the other home-based tour mode model; can be used for partial runs, true can be overridden by more general switches above
WorkTourTime ModelCoefficients	.\07_Coefficients\ WorkTourTimeCo efficients_SACOG -v1.5.F12	Path of the coefficient file for the work tour time model

SETTING	VALUE	DESCRIPTION
ShouldRunWorkTour TimeModel	True	A toggle switch to run the work tour time model; can be used for partial runs, true can be overridden by more general switches above
SchoolTourTime ModelCoefficients	.\07_Coefficients\SchoolTourTimeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the school tour time model
ShouldRunSchoolTourTimeModel	True	A toggle switch to run the school tour time model; can be used for partial runs, true can be overridden by more general switches above
OtherHomeBasedTour TimeModelCoefficients	.\07_Coefficients\OtherHomeBasedTourTimeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the other home-based tour time model
ShouldRunOtherHomeBasedTour TimeModel	True	A toggle switch to run the home-based tour time model; can be used for partial runs, true can be overridden by more general switches above
WorkBasedSubtourTimeModelCoefficients	.\07_Coefficients\WorkbasedSubtourTimeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the work-based subtour time model
ShouldRunWorkBasedSubtourTimeModel	True	A toggle switch to run the work-based subtour time model; can be used for partial runs, true can be overridden by more general switches above

SETTING	VALUE	DESCRIPTION
IntermediateStopGenerationModelCoefficients	.\07_Coefficients\IntermediateStopGenerationCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the intermediate stop generation model
ShouldRunIntermediateStopGenerationModel	True	A toggle switch to run the intermediate stop generation model; can be used for partial runs, true can be overridden by more general switches above
IntermediateStopLocationModelSampleSize	100	The maximum number of destinations to be sampled for the intermediate stop location model
IntermediateStopLocationModelCoefficients	.\07_Coefficients\IntermediateStopLocationCoefficients_SACOG-v1.8.F12	Path of the coefficient file for the intermediate stop location model
ShouldRunIntermediateStopLocationModel	True	A toggle switch to run the intermediate stop location model; can be used for partial runs, true can be overridden by more general switches above
TripModeModelCoefficients	.\07_Coefficients\TripModeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the trip mode model
ShouldRunTripModeModel	True	A toggle switch to run the trip mode model; can be used for partial runs, true can be overridden by more general switches above

SETTING	VALUE	DESCRIPTION
TripTimeModelCoefficients	.\07_Coefficients\TripTimeCoefficients_SACOG-v1.5.F12	Path of the coefficient file for the trip time model
ShouldRunTripTimeModel	True	A toggle switch to run the trip time model; can be used for partial runs, true can be overridden by more general switches above
Path Impedance Parameters		
PathImpedance_ PathChoiceScaleFactor	1.5	A scale factor for the coefficients of the path-type models; the inverse of a logsum coefficient in upper-level models. Not really used in BKRCast as BKRCast has only local bus under transit so don't have any path type competing under any modes.
PathImpedance_ AutoOperating CostPerMile	0.24	Auto operating cost, in monetary units per distance unit
PathImpedance_ TransitInVehicle TimeWeight	1.0	Relative weight on transit in-vehicle time in the transit and park-and-ride path type models. These are all multiples of the auto in-vehicle time coeffcient, which is set in the VOT parameters.
PathImpedance_ TransitFirst WaitTimeWeight	2.0	Relative weight on transit first wait time in the transit and park-and-ride path-type models
PathImpedance_ TransitTransfer WaitTimeWeight	2.0	Relative weight on transit transfer wait time in the transit and park-and-ride path-type models

SETTING	VALUE	DESCRIPTION
PathImpedance_ TransitNumber BoardingsWeight	8.0	Relative weight on transit number of boardings in the transit and park-and-ride path-type models
PathImpedance_ TransitDriveAccess TimeWeight	2.0	Relative weight on transit drive access in-vehicle time in the park-and-ride path-type models
PathImpedance_ TransitWalkAccess TimeWeight	2.0	Relative weight on transit walk access and egress times in the transit and park-and-ride path-type models
PathImpedance_ WalkTimeWeight	2.5	Relative weight on walk mode time in the walk path-type model
PathImpedance_ BikeTimeWeight	4.0	Relative weight on bike mode time in the bike path-type model
PathImpedance_ WalkMinutesPerMile	20.0	Factor to convert parcel-based transit walk access/egress distance into time (in minutes per distance unit)
PathImpedance_ TransitWalkAccess DistanceLimit	1.0	Maximum parcel-based transit walk access or egress distance allowed for available transit paths

SETTING	VALUE	DESCRIPTION
PathImpedance_TransitWalkAccessDirectLimit	1.0	Maximum parcel-based transit walk access or egress distance allowed for direct transit paths to be chosen over mixed paths
PathImpedance_ TransitSingleBoarding Limit	1.1	Maximum number of boardings for a transit path to be considered a "direct path" (no transfers). When DaySim figures out the walk time from a parcel to the nearest transit stop for path types other than local bus, DaySim wants to figure out whether those paths could include local bus feeder or if they are a direct path with no transfers (the boardings skim value is >=TransitSingleBoardingLimit). The fraction is because some transit skims are an average across multiple paths, some direct and some not.
PathImpedance_ AutoTolledPath Constant	0.0	Path-type constant for an auto path that includes a nonzero toll cost (reflects extra resistance to paying tolls)
PathImpedance_ AvailablePath UpperTimeLimit	200.0	Maximum total (unweighted) path travel time (in minutes) for a path to be considered an available option
PathImpedance_ TransitLocalBus PathConstant	0.0	Path-type constant for transit local bus only paths

SETTING	VALUE	DESCRIPTION
PathImpedance_ TransitPremiumBus PathConstant	0.0	Path-type constant for transit premium bus (possibly plus feeder) paths
PathImpedance_ TransitLightRail PathConstant	0.0	Path-type constant for transit light rail (possibly plus feeder) paths
PathImpedance_ TransitCommuterRail PathConstant	0.0	Path-type constant for transit commuter rail (possibly plus feeder) paths
PathImpedance_ TransitFerry PathConstant	0.0	Path-type constant for transit passenger ferry (possibly plus feeder) paths
PathImpedance_ TransitUsePathType SpecificTime	true	A switch to use additional skims and weights to reflect transit submode-specific in-vehicle times (SACOG-specific)
PathImpedance_ TransitPremiumBus TimeAdditiveWeight	0.00	An additive weight on premium bus submode-specific in-vehicle time (adds to TransitInVehicleTimeWeight)
PathImpedance_ TransitLightRail TimeAdditiveWeight	-0.15	An additive weight on light-rail submode-specific in-vehicle time (adds to TransitInVehicleTimeWeight)

SETTING	VALUE	DESCRIPTION
PathImpedance_ TransitCommuterRail TimeAdditiveWeight	-0.25	An additive weight on commuter rail submode-specific in-vehicle time (adds to TransitInVehicleTimeWeight)
PathImpedance_ TransitFerryTime AdditiveWeight	-0.40	An additive weight on passenger ferry submode-specific in-vehicle time (adds to TransitInVehicleTimeWeight)
PathImpedance_ BikeUseTypeSpecific DistanceFractions	False	A switch to use additional skims and weights to reflect bicycle distances on specific facility types (SACOG-specific)
PathImpedance_ BikeType1Distance FractionAdditiveWeight	0.0	An additive weight on bike distance on Class 1 bike paths (adds to BikeTimeWeight, distance is converted to time)
PathImpedance_ BikeType2Distance FractionAdditiveWeight	0.0	An additive weight on bike distance on Class 2 bike paths (adds to BikeTimeWeight, distance is converted to time)
PathImpedance_ BikeType3Distance FractionAdditiveWeight	0.0	An additive weight on bike distance on Class 3 bike paths (adds to BikeTimeWeight, distance is converted to time)

SETTING	VALUE	DESCRIPTION
PathImpedance_ BikeType4Distance FractionAdditiveWeight	0.0	An additive weight on bike distance on Class 4 bike paths (adds to BikeTimeWeight, distance is converted to time)
PathImpedance_ TransitUseFareDiscount Fractions	True	A switch (true/false) to use transit fare discount fractions based on person type and age
PathImpedance_ TransitFareDiscount FractionChildUnder5	0.8	Transit fare discount fraction for children under age 5
PathImpedance_ TransitFareDiscount FractionChild5To15	0.5	Transit fare discount fraction for children ages 5 to 15
PathImpedance_ TransitFareDiscount FractionHighSchool Student	0.5	Transit fare discount fraction for high school students (children age 16+)
PathImpedance_ TransitFareDiscount FractionUniverity Student	0.5	Transit fare discount fraction for college students
PathImpedance_ TransitFareDiscount FractionAge65Up	0.5	Transit fare discount fraction for adults age 65+
PathImpedance_ TransitPassCost PercentChangeVersus Base	0	Policy input variable to change the cost of transit passes with respect to base year
Path-type Impedance Coefficients		
Coefficients_ BaseCostCoefficient PerDollar	-0.15	Base cost coefficient (per monetary unit), when income=BaseCostCoefficientIncomeLevel

SETTING	VALUE	DESCRIPTION
Coefficients_ BaseCostCoefficient IncomeLevel	30000	Household income level (monetary units per year) where the cost coefficient is the BaseCostCoefficient
Coefficients_ CostCoefficient IncomePower_Work	0.6	Power function exponent to use for adjusting the cost coefficient for income, for work tours
Coefficients_ CostCoefficient IncomePower_Other	0.3	Power function exponent to use for adjusting the cost coefficient for income, for nonwork tours
Coefficients_ MeanTimeCoefficient _Work	-0.03	Mean time coefficient (/minute) for work tours
Coefficients_ MeanTimeCoefficient _Other	-0.015	Mean time coefficient (/minute) for nonwork tours
Coefficients_ StdDeviationTime Coefficient_Work	0.8	Standard deviation of the time coefficient (/minute) for work tours, when using random VOT distribution
Coefficients_ StdDeviationTime Coefficient_Other	1.0	Standard deviation of the time coefficient (/minute) for nonwork tours, when using random VOT distribution

SETTING	VALUE	DESCRIPTION
Coefficients_ HOV2CostDivisor _Work	1.741	Divisor for the cost coefficient for the HOV2 mode for work tours (to reflect cost-sharing)
Coefficients_ HOV2CostDivisor _Other	1.741	Divisor for the cost coefficient for the HOV2 mode for nonwork tours (to reflect cost-sharing)
Coefficients_ HOV3CostDivisor _Work	2.408	Divisor for the cost coefficient for the HOV3+ mode for work tours (to reflect cost-sharing)
Coefficients_ HOV3CostDivisor _Other	2.158	Divisor for the cost coefficient for the HOV3+ mode for nonwork tours (to reflect cost-sharing)
UseRandomVotDistribution	true	TRUE to randomly simulate a time coefficient for each tour, using a log-normal distribution
UrbanThreshold	500	
New Work-At-Home (Telecommute) Model settings		
UseDiaryVsSmartphoneBiasVariables	false	
UseProxyBiasVariables	false	
UseWorkAtHomeModelAndVariables	true	Toggle Telecommute Model On/Off with True/False Value
WorkAtHome_DurationThreshold	2.5	Minimum hours that must be worked at home to be considered “telecommuting”
WorkAtHome_AlternativeSpecificConstant	-1.8067	Telecommute Alternative Specific Constant
WorkAtHome_PartTimeWorkerCoefficient	-0.264	Part Time Worker Telecommute Coefficient
WorkAtHome_Income0to50Coefficient	0.349	Income 0-50K telecommute coefficient

SETTING	VALUE	DESCRIPTION
WorkAtHome_IncomeOver150Coefficient	0.3	Income >150K telecommute coefficient
WorkAtHome_NonWorkerAndKidsInHHCoefficient	0.399	Non-worker and kids in households telecommute coefficient
WorkAtHome_NoVehiclesInHHCoefficient	0.412	No Vehicles in households telecommute coefficient
WorkAtHome_FractionMedicalJobsCoefficient	-0.415	Medical Profession telecommute coefficient
WorkAtHome_FractionEducationJobsCoefficient	0	Education profession telecommute coefficient
WorkAtHome_FractionServiceJobsCoefficient	0	Service profession telecommute coefficient
WorkAtHome_FractionOtherJobsCoefficient	1.396	Other profession telecommute coefficient
WorkAtHome_FractionGovernmentJobsLowIncomeCoefficient	-0.65	Government Profession telecommute coefficient
WorkAtHome_FractionIndustrialJobsLowIncomeCoefficient	-0.402	Industrial jobs telecommute coefficient
WorkAtHome_FractionRetailFoodJobsLowIncomeCoefficient	-0.418	Retail and Food profession telecommute coefficients
WorkAtHome_FractionOfficeJobsLowIncomeCoefficient	-0.63	Low income and office worker telecommute coefficient
WorkAtHome_FractionGovernmentJobsHigherIncomeCoefficient	-0.311	High income and government profession telecommute coefficient
WorkAtHome_FractionIndustrialJobsHigherIncomeCoefficient	0.431	High income and industrial profession telecommute coefficient
WorkAtHome_FractionRetailFoodJobsHigherIncomeCoefficient	-0.385	High income and retail/food profession telecommute coefficient
WorkAtHome_FractionOfficeJobsHigherIncomeCoefficient	0.295	High income and office profession telecommute coefficient
Ride Share Settings		
PaidRideShareModelsAvailable	true	Include Taxi/TNC ride share modes in Mode Choice models
PaidRideshare_UseEstimatedInsteadOfAssertedCoefficients	true	Use estimated coefficients for the Ride Share Model
PaidRideshare_OutputNumberOfPassengersOnTripRecord	true	Output Number of passengers to trip records
PaidRideShare_ModeConstant	-5	
PaidRideShare_ExtraCostPerDistanceUnit	1	
PaidRideShare_FixedCostPerRide	5	
PaidRideShare_Age26to35Coefficient	0.25	
PaidRideShare_Age18to25Coefficient	0.5	
PaidRideShare_AgeOver65Coefficient	-0.5	

SETTING	VALUE	DESCRIPTION
PaidRideShare_DensityCoefficient	0.001	
PaidRideshare_AvergeNumberOfPassengersForWorkTours	1.5	
PaidRideshare_AvergeNumberOfPassengersForSchoolTours	1.5	
PaidRideshare_AvergeNumberOfPassengersForEscortTours	1.5	
PaidRideshare_AvergeNumberOfPassengersForOtherTours	1.5	
PaidRideshare_1PassengerShareForWorkTours	0.7	
PaidRideshare_2PassengerShareForWorkTours	0.2	
PaidRideshare_AverageNumberFor3plusPassengerWorkTours	4	
PaidRideshare_1PassengerShareForSchoolTours	0.5	
PaidRideshare_2PassengerShareForSchoolTours	0.3	
PaidRideshare_AverageNumberFor3plusPassengerSchoolTours	4	
PaidRideshare_1PassengerShareForEscortTours	0.1	
PaidRideshare_2PassengerShareForEscortTours	0.4	
PaidRideshare_AverageNumberFor3plusPassengerEscortTours	3.3	
PaidRideshare_1PassengerShareForOtherTours	0.45	
PaidRideshare_2PassengerShareForOtherTours	0.35	
PaidRideshare_AverageNumberFor3plusPassengerOtherTours	4.25	
Other Settings		
RawPersonPath	.\2016_prec_pp.csv	
DestinationScale	0	
HouseholdIncomeAdjustmentFactorTo2000Dollars	0.60	
UseWorkShadowPricingForWorkAtHomeAlternative	false	
CountAllIntermediateStopsOnPersonDayRecord	true	
PathImpedance_BikeUseTypeSpecificDistanceFractions	true	

APPENDIX E. CATALOG KEYS

Table 87 lists the catalog keys that are part of the Tulare ABM model system.

TABLE 87. CUBE CATALOG KEYS

KEY	DESCRIPTION
Scen. Name	
RunInputProcess	
Socio-economic and Highway Inputs	
Cluster Toggle	
ClusterHandle	Cluster handle name
ClusterNodes	Number of cluster nodes
NumZones	Number of zones
Year	Scenario year
Run_Input_App	Boolean variable to enable or disable running Input Processing
Run_WorkerFrac	Boolean variable to enable or disable running Worker Frac
Run_PopSim	Boolean variable to enable or disable running PopulationSim
Run_TransitStops	Boolean variable to enable or disable running Transit Stops
Run_IntersectionDensity	Boolean variable to enable or disable running Intersection Density
TAZ_Data	Path to zonal data file
SE_Detail	Path to social economic detail file
XX_Input	

KEY	DESCRIPTION
Gateways	
Special	
MXD_Parameters	Path to MXD parameters file
Master_Network	Path to highway network file
Net_year	Year of network scenario
Turn_Pen	Path to turn penalties file
Truck_BaseMatrix	Path to Truck Base Matrix file
Truck_FutureMatrix	Path to Truck Future Matrix file
RunID	
Intersection_Data	
Walk_MI	
VMT_Seed	
Annualization	
Post-Processing	
LOSLookup	
Conformity	
ASSIGNCLASS	
ASSIGNSUMMARY	
INTS	
SVG	

KEY	DESCRIPTION
Airbasins	
Compare	
CompareNet	Path to network file to compare to
CompareSEDetail	Path to SE detail file to compare to
SelectZone	
MatchTrips	
SelZoneList	Path to select/zone listing file
TripTarget	Path to .DBF file with Zone,A1_IN, A1_OUT, P1_IN, P1_OUT, DAY_IN, DAY_OUT
SELECTLIST	
SELECTSUMMARY	
External Rail Riders	
HSR Riders	Rail .DBF file path
ACCIDENTS_VMT	Number of collisions per VMT
ACCIDENTS_TOTAL	Number of total collisions
ACCIDENTS_PDO	
ACCIDENTS_INJURY	Number of total collisions
ACCIDENTS_FATAL	Number of collision fatalities
VICTIMS_KILLED	Number of deaths
VICTIMS_INJURED	Number of injuries
TLF	

KEY	DESCRIPTION
MVG	
INTV	
Range_O	Origin zones to generate summaries for
Range_J	Destination zones to generate summaries for
Transit Inputs	
TransitNetwork	Check to indicate public transit network is available
Transit_NHLinks	Path to non-highway transit links file
Transit_XY	Path to XY cooridnates of transit notes file
Transit_LinesPK	Path to peak transit lines file
Transit_DrivePK	Path to peak drive access block file
Transit_WalkPK	Path to peak walk access block file
Transit_LinesOK	Path to off-peak transit lines file
Transit_DriveOK	Path to off-peak transit drive access block
Transit_WalkOK	Path to off-peak transit walk access block
TransitFares	Path to transit fares file
TransitFactors	Path to transit factors file
TransitFactorsBus	Path to transit factors for bus
TransitSystem	Path to transit system points file path
TripGenRates	Path to trip generation rates file
Truck Generation Rates	Path to truck generation rates file

KEY	DESCRIPTION
SpdCapLookup	
AutoOpCosts	Path to auto operating costs file
MCParameters	Path to mode choice parameters file
FricFacParam	Path to friction factors parameters file
DiurnalFactors	Path to diurnal factors file
TimeFacB_1	Transit speed time factor on facility class 1
TimeFacB_2	Transit speed time factor on facility class 2
TimeFacB_3	Transit speed time factor on facility class 3
TimeFacB_4	Transit speed time factor on facility class 4
TimeFacB_5	Transit speed time factor on facility class 5
TimeFacB_6	Transit speed time factor on facility class 6
TimeFacB_7	Transit speed time factor on facility class 7
TimeFacB_8	Transit speed time factor on facility class 8
TimeFacB_9	Transit speed time factor on facility class 9
VOT_0Veh	Low value of time
VOT_1Veh	Medium value of time
VOT_2Veh	High value of time
Speed_Bike	Bike speed (units)
Speed_Walk	Walk speed (units)
MaxBikeDist	Maximum bike distance (units)

KEY	DESCRIPTION
MaxWalkDist	Maximum walk distance (units)
AOF_HW_SR3	
Dist_Iter_Truck	
Assign_Iter_Peak	
Assign_Iter_OffPeak	
CAPFAC_A3	AM period capacity factor
CAPFAC_MD	MD period capacity factor
P CAPFAC_PM	PM period capacity factor
CAPFAC_NT	EV period capacity factor
AMPER_HOURS	AM peak period hours (24-hr format)
MDPER_HOURS	MD period hours (24-hr format)
P3PER_HOURS	PM peak period hours (24-hr format)
NTPER_HOURS	EV period hours (24-hr format)
A1PER_HOURS	AM peak hour (24-hr format)
P1PER_HOURS	PM peak hour (24-hr format)
TS_PCE	Small truck passenger car equivalent
TM_PCE	Medium truck passenger car equivalent
TH_PCE	Heavy truck passenger car equivalent
Truck Freeway Speed Factor	Truck freeway speed factor
AGENTATTRIBUTES	

KEY	DESCRIPTION
REAttributes	Path to real estate attributes file
ZoneAttributes	
SeedShadowFile	Path to seed shadow price file
AOF_SR3	
DaySimSeed	DaySim seed
NumMAZ	Number of MAZs
FareMatrix	Path to fare matrix file
Run_Validation	Boolean to enable or disable validation
HOV2_TOLL_FACTOR	HOV2 toll factor
HOV3_TOLL_FACTOR	HOV3 toll factor
ANACONDADIR	Miniforge installation directory
R_SCRIPT	R installation directory
External_TruckTable	Path to the external truck trip table

Appendix E

Energy Generation and Consumption Calculations

Table 4.6-5 Indirect Energy Consumption Factors

Mode	Factor
Manufacturing	
Passenger Vehicles	1,410 Btu/VMT
Transit Buses	3,470 Btu/VMT
Roadway (construction)	27,300 Btu/VMT
Maintenance	
Passenger Vehicles	1,400 Btu/VMT
Transit Buses	13,142 Btu/VMT
Rail	7,060 Btu/VMT

Source: Caltrans 1983

2025 Baseline

BTU per VMT Conversion Factor	
70,785,641,096	btu
10,662,601	daily vmt
6,639	btu/vmt

Regional Population Estimates	
2025	487,209
2049	540,925

Table 4.6-6 Direct Transportation and Per-Household Energy Use[1]

Year	Daily VMT	Direct Energy Use (Daily MMBtu)	Per-Household Energy Use (Million Btu per year)[2]	Per-Capita Energy Use Daily (MMBtu)	Number of Households	People per Household
2025 Baseline	10,662,601	70,786	173.1	0.145	149,253	3.26
Proposed 2026 RTP/SCS in 2049	11,566,124	76,784	146.4	0.142	191,404	2.83
Change % (Baseline vs. Proposed 2026 RTP/SCS) [1]	**8%**	**8%**	**-15%**	**-2%**		

[1] A negative percentage represents a decrease

Year	PRB Pop	PRB HHlds	PRB Employment
2022	468,920	144,597	188,100
2023	469,109	145,838	190,500
2024	473,440	147,738	193,600
2025	487,209	149,253	196,590
2026	484,508	151,437	199,130
2027	487,856	153,765	201,700
2028	491,680	156,192	204,310
2029	495,529	158,611	206,880
2030	505,089	160,939	207,910
2031	502,681	163,255	209,040
2032	506,030	165,516	210,220
2033	509,224	167,651	211,160
2034	512,222	169,725	212,120
2035	521,065	171,675	213,250
2036	517,613	173,619	214,250
2037	520,041	175,526	215,270
2038	522,312	177,361	216,300
2039	524,400	179,050	217,270
2040	526,259	180,647	218,090
2041	527,926	182,181	218,900
2042	529,419	183,579	219,790
2043	530,709	184,861	220,590
2044	531,801	186,119	221,350
2045	538,978	187,305	222,200
2046	533,480	188,435	222,910
2047	534,051	189,508	223,620
2048	534,445	190,498	224,270
2049	540,925	191,404	225,030

Appendix F

Greenhouse Gas Emission Calculations

TCAG 2026 RTP/SCS GHG Emission Calculations

Scenario	VMT	CO_2 (tons/day)	CO_2e (tons/day)	CO_2e (metric tons/year)
2025 TCAG Baseline				
On-Road Motor Vehicles	10,662,601	4,791	4,886	1,783,542
2030 Project				
On-Road Motor Vehicles	11,036,842	4,476	4,566	1,666,583
2035 Project				
On-Road Motor Vehicles	11,259,360	4,292	4,378	1,598,013
2045 Project				
On-Road Motor Vehicles	11,585,533	4,269	4,354	1,589,387
2049 No Project				
On-Road Motor Vehicles	12,458,425	4,633	4,726	1,724,934
2049 Project				
On-Road Motor Vehicles	11,566,124	4,309	4,395	1,604,297
Difference (2049 RTP/SCS - Baseline)	**903,523.00**	**(481.45)**	**(491.08)**	**(179,245.22)**
%	**8%**	**-10%**	**-10%**	**-10%**
Difference (2049 RTP/SCS - No Project)	**(892,301.12)**	**(324.03)**	**(330.51)**	**(120,637.13)**
%	**-7.16%**	**-6.99%**	**-6.99%**	**-6.99%**

Notes

Annual emissions - Total

1) Includes tire and break wear in the total PM

2) Includes only tire and break wear

Estimates calculated using EMFAC2021. TCAG applied a ratio of 1:00:1:02 to all EMFAC2021 generated CO2 estimates for conversion to CO2e.

Emissions were adjusted using CARB's *EMFAC2021 Off-Model Greenhouse Gas Adjustment Factors to Remove the Impact of Advanced Clean Trucks, Zero-Emission Airport Shuttle, Heavy-Duty Omnibus and Warranty Phase I Regulations* https://ww2.arb.ca.gov/our-work/programs/msei/emfac2021-model-and-documentation

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	All Vehicles	All Vehicles	1	262,110.1	10,662,600.5	10,282,135.1	380,465.4	1,372,278.3	4,623.6	75.6	88.9	4,788.0	4,790.6
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	All Other Buses-Dsl	All Other Buses - Dsl	1	57.0	2,851.3	2,851.3	0	506.9	3.50	0.0394		3.54	3.5
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	All Other Buses-NG	All Other Buses - Oth	1	2.15	119.2	119.2	0	19.2	0.1291	0.0029		0.1320	0.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDA-Dsl	LDA - Dsl	1	236.7	7,495.8	7,495.8	0	989.5	1.91			1.91	1.9
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDA-Elec	LDA - Oth	1	4,885.2	248,360.1	0	248,360.1	24,449.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDA-Gas	LDA - Gas	1	111,383.1	4,639,926.0	4,639,926.0	0	514,145.5	1,327.3		35.5	1,362.7	1,362.7
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDA-Phe	LDA - Gas	1	3,139.8	154,344.9	75,313.7	79,031.2	12,983.2	21.0		0.8735	21.8	21.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT1-Dsl	LDT1 - Dsl	1	6.01	98.1	98.1	0	17.0	0.0433			0.0433	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT1-Elec	LDT1 - Oth	1	17.2	864.7	0	864.7	85.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT1-Gas	LDT1 - Gas	1	10,292.6	344,058.7	344,058.7	0	43,310.6	119.7		3.69	123.4	123.4
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT1-Phe	LDT1 - Gas	1	15.2	818.6	356.2	462.4	62.8	0.0992		0.0045	0.1037	0.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT2-Dsl	LDT2 - Dsl	1	133.8	5,914.1	5,914.1	0	637.3	1.93			1.93	1.9
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT2-Elec	LDT2 - Oth	1	330.3	12,206.2	0	12,206.2	1,679.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT2-Gas	LDT2 - Gas	1	49,509.9	2,010,473.4	2,010,473.4	0	228,341.9	713.6		19.9	733.5	733.5
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LDT2-Phe	LDT2 - Gas	1	405.9	20,812.4	9,509.0	11,303.5	1,678.3	2.65		0.1310	2.78	2.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LHD1-Dsl	LHD1 - Dsl	1.002989066	5,458.1	192,154.8	192,154.8	0	68,655.8	134.1	0.8110		134.9	135.3
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LHD1-Elec	LHD1 - Oth	0	28.4	2,039.5	0	2,039.5	397.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LHD1-Gas	LHD1 - Gas	1.003007452	4,841.8	173,650.8	173,650.8	0	72,136.2	169.2	0.5953	1.58	171.4	171.9
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LHD2-Dsl	LHD2 - Dsl	1.003092144	1,887.1	68,212.2	68,212.2	0	23,737.1	57.5	0.4476		57.9	58.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LHD2-Elec	LHD2 - Oth	0	7.22	493.0	0	493.0	95.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	LHD2-Gas	LHD2 - Gas	1.002615151	733.0	25,431.5	25,431.5	0	10,920.0	19.6	0.1056	0.2452	20.0	20.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	MCY-Gas	MCY - Gas	1	5,735.3	31,720.1	31,720.1	0	11,470.6	5.52		0.4389	5.96	6.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	MDV-Dsl	MDV - Dsl	1	833.0	32,613.8	32,613.8	0	3,834.5	15.0			15.0	15.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	MDV-Elec	MDV - Oth	1	365.2	13,466.0	0	13,466.0	1,856.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	MDV-Gas	MDV - Gas	1	52,524.9	1,927,522.8	1,927,522.8	0	234,605.9	860.3		26.1	886.4	886.4
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	MDV-Phe	MDV - Gas	1	320.1	15,345.6	7,352.9	7,992.7	1,323.6	2.06		0.1324	2.20	2.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	MH-Dsl	MH - Dsl	1	375.6	3,219.9	3,219.9	0	37.6	3.80			3.80	3.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	MH-Gas	MH - Gas	1	621.2	5,567.1	5,567.1	0	62.1	11.8		0.0017	11.8	11.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	Motor Coach-Dsl	Motor Coach - Dsl	1	16.5	2,205.7	2,205.7	0	379.1	4.23	0.1883		4.42	4.4
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	OBUS-Elec	OBUS - Oth	0	0.3822	34.2	0	34.2	7.65				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	OBUS-Gas	OBUS - Gas	1.001940253	89.4	3,631.6	3,631.6	0	1,789.6	7.02	0.0361	0.0484	7.10	7.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	PTO-Dsl	PTO-Dsl	1.00269157		6,444.7	6,444.7	0		14.6			14.6	14.6
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	PTO-Elec	PTO-Oth	0		61.3	0	61.3					0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	SBUS-Dsl	SBUS - Dsl	1.00118215	344.0	7,568.5	7,568.5	0	4,981.6	9.29	0.8111		10.1	10.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	SBUS-Elec	SBUS - Oth	0	0.4286	69.6	0	69.6	33.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	SBUS-Gas	SBUS - Gas	1.000956879	95.9	5,128.3	5,128.3	0	383.6	4.69	0.2619	0.0175	4.97	5.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	SBUS-NG	SBUS-Oth	1.001174794	62.0	1,561.1	1,561.1	0	898.3	1.92	0.2747		2.19	2.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	1.003480761	4.95	331.6	331.6	0	113.7	0.4060	0.0032		0.4093	0.4
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	0	0.0628	5.13	0	5.13	1.44				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	1.003094403	6.55	455.7	455.7	0	150.5	0.5584	0.0043		0.5627	0.6
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	0	0.0727	6.28	0	6.28	1.67				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	1.004758328	22.2	1,182.6	1,182.6	0	509.9	1.42	0.0141		1.44	1.4
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	0	0.4095	24.5	0	24.5	9.41				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	1.001590803	36.6	7,497.1	7,497.1	0	841.8	8.45	0.0235		8.47	8.5
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	0	0.3486	74.3	0	74.3	8.01				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	1.002215767	49.3	1,664.2	1,664.2	0	703.4	2.12	0.1111		2.23	2.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	0	0.4930	20.1	0	20.1	7.03				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	1.002008836	34.4	1,171.6	1,171.6	0	491.5	1.49	0.0776		1.57	1.6
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	0	0.2812	11.3	0	11.3	4.01				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	1.002038385	210.5	7,123.8	7,123.8	0	3,004.0	9.06	0.4761		9.53	9.6
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	0	1.80	71.4	0	71.4	25.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	1.000815355	40.8	2,167.8	2,167.8	0	582.4	2.71	0.0970		2.81	2.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	0	0.1832	8.70	0	8.70	2.61				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	1.000306337	0.2993	16.8	16.8	0	4.27	0.0190	0.0014		0.0204	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	1.00232808	277.7	11,574.4	11,574.4	0	3,209.8	14.3	0.6785		15.0	15.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	0	2.13	97.9	0	97.9	24.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	1.001957989	667.4	28,765.5	28,765.5	0	7,715.0	35.6	1.63		37.3	37.3
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	0	5.57	263.8	0	263.8	64.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	1.002084848	607.1	25,467.0	25,467.0	0	7,018.0	31.4	1.48		32.8	32.9
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	0	5.33	247.1	0	247.1	61.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	1.002272149	432.8	18,053.9	18,053.9	0	5,003.5	21.7	1.10		22.8	22.9
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	0	1.70	111.7	0	111.7	19.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	1.000924079	5.31	289.3	289.3	0	61.4	0.2878	0.0277		0.3154	0.3
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	1.001875314	9.86	477.1	477.1	0	114.0	0.5841	0.0244		0.6086	0.6
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	0	0.1332	8.01	0	8.01	1.54				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	1.000898247	257.4	15,101.1	15,101.1	0	2,975.3	17.3	0.6454		17.9	17.9
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	0	1.02	80.8	0	80.8	11.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	1.000375906	3.35	238.9	238.9	0	38.7	0.2325	0.0171		0.2496	0.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	1	2.93	195.0	195.0	0	67.3	0.2359	0.0019		0.2378	0.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	1	3.86	267.5	267.5	0	88.7	0.3243	0.0025		0.3268	0.3
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	1	13.2	698.9	698.9	0	302.7	0.8283	0.0083		0.8366	0.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	1	19.9	5,081.8	5,081.8	0	458.1	5.68	0.0127		5.69	5.7

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	1.002483901	21.5	750.7	750.7	0	110.3	1.00	0.0771		1.08	1.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 4-Elec	T6 Public-Oth	0	0.2112	9.04	0	9.04	1.08				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 4-NG	T6 Public-NG	1.002726427	1.43	58.5	58.5	0	7.33	0.0610	0.0096		0.0706	0.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	1.002086075	42.9	1,540.9	1,540.9	0	219.8	2.04	0.1575		2.20	2.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 5-Elec	T6 Public-Oth	0	0.4217	17.8	0	17.8	2.16				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 5-NG	T6 Public-NG	1.001566109	4.19	170.7	170.7	0	21.5	0.1815	0.0284		0.2099	0.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	1.002451592	55.3	1,923.4	1,923.4	0	283.8	2.57	0.1970		2.77	2.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 6-Elec	T6 Public-Oth	0	0.5791	22.7	0	22.7	2.97				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 6-NG	T6 Public-NG	1.002392311	3.82	157.4	157.4	0	19.6	0.1649	0.0261		0.1910	0.2
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	1.003001291	71.1	3,221.6	3,221.6	0	364.6	4.27	0.2460		4.52	4.5
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 7-Elec	T6 Public-Oth	0	0.7699	48.0	0	48.0	3.95				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Public Class 7-NG	T6 Public-NG	1.00165773	6.07	321.0	321.0	0	31.1	0.3374	0.0422		0.3796	0.4
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	1.004461251	14.8	599.0	599.0	0	189.3	0.7222	0.0265		0.7487	0.8
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	0	0.2577	11.2	0	11.2	3.30				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 5-NG	T6 Utility-NG	1.002417767	0.0407	1.57	1.57	0	0.5206	0.0016	0.0001		0.0017	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	1.004542916	2.80	113.0	113.0	0	35.9	0.1358	0.0050		0.1409	0.1
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	0	0.0490	2.13	0	2.13	0.6277				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 6-NG	T6 Utility-NG	1.001752211	0.0121	0.4565	0.4565	0	0.1555	0.0005	0.0000		0.0005	0.0
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	1.005304045	3.17	157.0	157.0	0	40.6	0.1885	0.0057		0.1942	0.1952
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	0	0.0555	3.43	0	3.43	0.7104				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6 Utility Class 7-NG	T6 Utility-NG	1.001864726	0.0095	0.4328	0.4328	0	0.1218	0.0004	0.0000		0.0005	0.0005
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6TS-Elec	T6TS - Gas	0	1.98	180.0	0	180.0	39.6				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T6TS-Gas	T6TS - Gas	1.00252263	262.6	12,647.4	12,647.4	0	5,253.2	24.5	0.1355	0.2089	24.8	24.8704
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	1.002471631	691.1	139,325.3	139,325.3	0	15,881.9	231.9	18.3		250.2	250.7965
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	0	8.34	1,628.7	0	1,628.7	191.6				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	1	620.2	166,651.1	166,651.1	0	14,252.9	271.0	19.8		290.8	290.8378
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	1	262.7	60,541.4	60,541.4	0	6,037.4	99.7	8.54		108.2	108.2420
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	1.00086731	13.9	2,588.8	2,588.8	0	228.1	4.68	0.1283		4.81	4.8165
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	0	0.0571	13.6	0	13.6	0.9344				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	1.000762007	61.6	6,134.3	6,134.3	0	1,008.1	11.1	0.5624		11.6	11.6472
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	0	0.3260	28.4	0	28.4	5.33				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	1.000314944	72.6	9,151.1	9,151.1	0	1,187.7	16.8	0.6805		17.5	17.5342
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	0	0.1451	15.6	0	15.6	2.37				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 POLA Class 8-NG	T7 POLA-NG	1.000413917	0.0337	4.13	4.13	0	0.5517	0.0051	0.0006		0.0057	0.0057
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	1.002133951	216.1	9,266.9	9,266.9	0	1,108.7	18.8	0.7292		19.6	19.6208
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Public Class 8-Elec	T7 Public-Oth	0	1.87	118.6	0	118.6	9.60				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Public Class 8-NG	T7 Public-NG	1.002419359	15.0	737.8	737.8	0	76.8	1.19	0.0911		1.28	1.2833
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	1.000371747	113.2	7,340.0	7,340.0	0	520.8	31.5	0.4322		31.9	31.9402
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	0	1.32	81.2	0	81.2	6.06				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	1.001018865	61.5	3,974.0	3,974.0	0	283.0	6.35	0.4253		6.78	6.7852
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	1.004775403	11.2	752.4	752.4	0	105.6	1.34	0.0542		1.40	1.4041
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	0	0.2022	15.3	0	15.3	1.90				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	1.002634117	0.4928	32.8	32.8	0	4.64	0.0422	0.0047		0.0470	0.0471
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	1.002210935	88.1	4,992.2	4,992.2	0	830.2	9.11	0.4573		9.57	9.5864
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	0	0.6111	48.9	0	48.9	5.76				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	1.001488296	3.12	177.3	177.3	0	29.4	0.2417	0.0299		0.2717	0.2721
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	1.002675375	481.3	25,611.5	25,611.5	0	4,533.9	45.7	2.45		48.1	48.2668
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	0	3.23	244.6	0	244.6	30.4				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Single Other Class 8-NG	T7 Single-NG	1.001518645	16.7	890.5	890.5	0	157.2	1.19	0.1574		1.35	1.3473
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1.000977198	1,231.7	90,737.3	90,737.3	0	17,897.0	153.1	11.3		164.4	164.5560
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	0	6.48	522.5	0	522.5	94.1				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	1.000321933	22.0	1,607.9	1,607.9	0	319.9	2.04	0.3825		2.42	2.4195
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	1.0019517	10.8	479.1	479.1	0	138.2	0.8933	0.0190		0.9123	0.9141
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	0	0.0627	4.01	0	4.01	0.8023				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7IS-Elec	T7IS - Gas	0	0.0018	0.5162	0	0.5162	0.0355				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	T7IS-Gas	T7IS - Gas	1.002079671	0.3931	25.4	25.4	0	7.86	0.0585		0.0004	0.0589	0.0590
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	UBUS-Dsl	UBUS - Dsl	0.999961979	11.0	1,092.6	1,092.6	0	44.1	0.9067			0.9067	0.9066
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	UBUS-Elec	UBUS - Oth	1	1.46	33.8	0	33.8	5.83				0	0.0000
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	UBUS-Gas	UBUS - Gas	0.996269827	42.5	2,986.9	2,986.9	0	169.8	5.61		0.0177	5.63	5.6055
1	Sub-Areas	55	Tulare (SJV)	2025	Annual	Tulare (SJV)-2025-Annual	UBUS-NG	UBUS - NG	0.999972297	64.2	7,448.7	7,448.7	0	256.6	7.01			7.01	7.0060

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	All Vehicles	All Vehicles	1	266,140.5	11,036,841.8	10,335,080.7	701,761.0	1,384,550.8	4,279.2	72.1	79.3	4,430.6	4,476.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	All Other Buses-Dsl	All Other Buses - Dsl	1	63.5	2,910.8	2,910.8	0	565.3	3.43	0.0415		3.47	3.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	All Other Buses-NG	All Other Buses - Oth	1	3.27	155.4	155.4	0	29.1	0.1559	0.0042		0.1600	0.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDA-Dsl	LDA - Dsl	1	146.1	5,001.9	5,001.9	0	630.8	1.17			1.17	1.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDA-Elec	LDA - Oth	1	8,865.6	424,469.0	0	424,469.0	43,305.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDA-Gas	LDA - Gas	1	112,492.5	4,747,348.7	4,747,348.7	0	518,213.5	1,278.7		32.4	1,311.1	1,311.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDA-Phe	LDA - Gas	1	4,300.4	200,686.2	90,320.7	110,365.5	17,782.0	26.1		1.11	27.2	27.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT1-Dsl	LDT1 - Dsl	1	0.0620	2.30	2.30	0	0.2608	0.0009			0.0009	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT1-Elec	LDT1 - Oth	1	59.5	3,047.0	0	3,047.0	296.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT1-Gas	LDT1 - Gas	1	8,877.1	313,923.3	313,923.3	0	37,889.1	102.4		2.93	105.4	105.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT1-Phe	LDT1 - Gas	1	50.0	2,560.8	1,059.9	1,500.9	206.7	0.3063		0.0139	0.3202	0.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT2-Dsl	LDT2 - Dsl	1	171.2	7,511.3	7,511.3	0	813.1	2.22			2.22	2.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT2-Elec	LDT2 - Oth	1	887.3	31,075.1	0	31,075.1	4,411.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT2-Gas	LDT2 - Gas	1	54,371.0	2,239,976.5	2,239,976.5	0	250,599.2	733.1		19.5	752.5	752.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LDT2-Phe	LDT2 - Gas	1	802.8	38,483.6	16,475.6	22,008.0	3,319.4	4.76		0.2425	5.00	5.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LHD1-Dsl	LHD1 - Dsl	1.041045022	4,436.8	150,084.3	150,084.3	0	55,809.5	103.0	0.6354		103.6	107.9
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LHD1-Elec	LHD1 - Oth	0	302.2	19,036.3	0	19,036.3	4,239.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LHD1-Gas	LHD1 - Gas	1.043005796	4,163.4	153,922.2	153,922.2	0	62,028.9	138.2	0.4889	1.33	140.0	146.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LHD2-Dsl	LHD2 - Dsl	1.040941395	1,661.4	57,521.8	57,521.8	0	20,898.2	46.9	0.3792		47.3	49.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LHD2-Elec	LHD2 - Oth	0	74.7	4,510.3	0	4,510.3	990.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	LHD2-Gas	LHD2 - Gas	1.038370731	601.1	20,765.7	20,765.7	0	8,955.8	14.7	0.0835	0.1929	15.0	15.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	MCY-Gas	MCY - Gas	1	5,484.6	30,475.9	30,475.9	0	10,969.3	5.28		0.3631	5.65	5.6
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	MDV-Dsl	MDV - Dsl	1	728.5	26,625.4	26,625.4	0	3,255.9	11.4			11.4	11.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	MDV-Elec	MDV - Oth	1	906.8	31,498.5	0	31,498.5	4,496.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	MDV-Gas	MDV - Gas	1	46,483.7	1,717,442.8	1,717,442.8	0	206,141.7	710.1		20.8	730.9	730.9
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	MDV-Phe	MDV - Gas	1	558.1	25,679.6	11,257.2	14,422.4	2,307.6	3.26		0.2120	3.48	3.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	MH-Dsl	MH - Dsl	1	338.1	2,857.1	2,857.1	0	33.8	3.34			3.34	3.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	MH-Gas	MH - Gas	1	472.8	4,473.7	4,473.7	0	47.3	9.42		0.0013	9.42	9.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	Motor Coach-Dsl	Motor Coach - Dsl	1	19.2	2,268.7	2,268.7	0	440.4	4.07	0.2010		4.27	4.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	OBUS-Elec	OBUS - Oth	0	3.35	289.3	0	289.3	67.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	OBUS-Gas	OBUS - Gas	1.060045122	72.6	2,736.0	2,736.0	0	1,452.5	4.99	0.0283	0.0380	5.06	5.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	PTO-Dsl	PTO-Dsl	1.06166606		6,302.5	6,302.5	0		13.3			13.3	14.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	PTO-Elec	PTO-Oth	0		581.9	0	581.9					0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	SBUS-Dsl	SBUS - Dsl	1.032343042	318.9	6,939.2	6,939.2	0	4,617.1	8.24	0.7477		8.98	9.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	SBUS-Elec	SBUS - Oth	0	2.73	621.9	0	621.9	298.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	SBUS-Gas	SBUS - Gas	1.020555981	94.2	5,119.5	5,119.5	0	376.7	4.60	0.2526	0.0169	4.87	5.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	SBUS-NG	SBUS-Oth	1.033694653	72.2	1,717.8	1,717.8	0	1,044.8	2.04	0.3164		2.36	2.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	1.096392336	4.79	324.2	324.2	0	110.0	0.3795	0.0029		0.3824	0.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	0	0.6152	51.4	0	51.4	14.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	1.090835726	6.16	448.0	448.0	0	141.5	0.5262	0.0037		0.5299	0.6
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	0	0.7361	67.3	0	67.3	16.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	1.110273443	23.9	1,141.9	1,141.9	0	550.0	1.32	0.0142		1.33	1.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	0	3.64	204.5	0	204.5	83.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	1.049490706	38.9	7,763.2	7,763.2	0	893.2	8.12	0.0228		8.14	8.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	0	3.11	682.2	0	682.2	71.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	1.061721713	50.5	1,686.2	1,686.2	0	720.3	2.05	0.1063		2.16	2.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	0	4.82	192.6	0	192.6	68.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	1.059518602	35.8	1,189.3	1,189.3	0	510.7	1.45	0.0754		1.53	1.6
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	0	3.25	130.2	0	130.2	46.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	1.060244214	218.2	7,234.1	7,234.1	0	3,114.0	8.84	0.4607		9.30	9.9
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	0	20.0	791.8	0	791.8	285.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	1.022062349	47.1	2,311.5	2,311.5	0	671.7	2.83	0.1067		2.94	3.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	0	2.16	111.4	0	111.4	30.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	1.015506946	0.4319	23.5	23.5	0	6.16	0.0256	0.0020		0.0276	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	1.069989713	288.9	11,632.5	11,632.5	0	3,339.7	13.8	0.6584		14.4	15.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	0	28.8	1,387.3	0	1,387.3	333.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	1.066854409	716.5	28,978.5	28,978.5	0	8,283.1	34.4	1.63		36.1	38.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	0	70.5	3,401.8	0	3,401.8	815.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	1.067276657	634.1	25,657.2	25,657.2	0	7,329.7	30.4	1.44		31.8	33.9
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	0	63.2	3,025.3	0	3,025.3	730.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	1.054360192	503.7	18,534.1	18,534.1	0	5,822.9	21.7	1.22		22.9	24.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	0	25.4	1,722.0	0	1,722.0	293.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	1.039653392	6.95	329.2	329.2	0	80.3	0.3145	0.0351		0.3496	0.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	1.075928742	10.5	474.9	474.9	0	121.2	0.5549	0.0240		0.5790	0.6
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	0	1.07	66.3	0	66.3	12.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	1.022498353	305.3	16,148.8	16,148.8	0	3,528.8	17.7	0.7269		18.5	18.9
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	0	9.56	777.8	0	777.8	110.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	1.017678158	4.35	274.5	274.5	0	50.3	0.2567	0.0215		0.2783	0.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	1	3.16	217.5	217.5	0	72.7	0.2417	0.0018		0.2436	0.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	1	4.03	298.3	298.3	0	92.6	0.3335	0.0023		0.3358	0.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	1	16.1	779.6	779.6	0	368.9	0.8506	0.0090		0.8597	0.9
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	1	21.6	5,668.5	5,668.5	0	496.9	5.77	0.0123		5.78	5.8

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	1.05058232	19.8	701.9	701.9	0	101.3	0.8960	0.0683		0.9643	1.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 4-Elec	T6 Public-Oth	0	1.66	71.1	0	71.1	8.52				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 4-NG	T6 Public-NG	1.059647308	1.83	71.6	71.6	0	9.38	0.0730	0.0123		0.0853	0.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	1.052523233	41.1	1,452.6	1,452.6	0	210.9	1.85	0.1445		2.00	2.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 5-Elec	T6 Public-Oth	0	3.43	145.5	0	145.5	17.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 5-NG	T6 Public-NG	1.047452678	4.88	187.0	187.0	0	25.1	0.1941	0.0329		0.2270	0.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	1.051459597	50.2	1,805.6	1,805.6	0	257.6	2.30	0.1735		2.48	2.6
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 6-Elec	T6 Public-Oth	0	4.19	171.8	0	171.8	21.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 6-NG	T6 Public-NG	1.052954466	4.90	193.9	193.9	0	25.1	0.1986	0.0332		0.2318	0.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	1.06152394	67.4	3,003.4	3,003.4	0	345.6	3.78	0.2250		4.00	4.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 7-Elec	T6 Public-Oth	0	5.67	340.2	0	340.2	29.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Public Class 7-NG	T6 Public-NG	1.059098691	7.75	362.7	362.7	0	39.7	0.3723	0.0532		0.4256	0.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	1.109653361	13.4	537.3	537.3	0	172.1	0.6253	0.0221		0.6474	0.7
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	0	2.16	93.0	0	93.0	27.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 5-NG	T6 Utility-NG	1.093494929	0.0315	1.22	1.22	0	0.4038	0.0012	0.0001		0.0013	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	1.110697528	2.54	101.4	101.4	0	32.5	0.1177	0.0042		0.1219	0.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	0	0.4097	17.7	0	17.7	5.24				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 6-NG	T6 Utility-NG	1.079799823	0.0075	0.2748	0.2748	0	0.0954	0.0003	0.0000		0.0003	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	1.125386007	2.82	138.7	138.7	0	36.1	0.1607	0.0046		0.1654	0.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	0	0.4508	27.0	0	27.0	5.77				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6 Utility Class 7-NG	T6 Utility-NG	1.083846349	0.0069	0.3324	0.3324	0	0.0885	0.0003	0.0000		0.0003	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6TS-Elec	T6TS - Gas	0	17.5	1,537.0	0	1,537.0	350.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T6TS-Gas	T6TS - Gas	1.066929345	224.1	11,774.2	11,774.2	0	4,483.3	21.4	0.1173	0.1684	21.7	23.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	1.050922252	695.4	138,022.4	138,022.4	0	15,979.7	209.3	16.5		225.7	237.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	0	58.6	12,262.9	0	12,262.9	1,346.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	1	654.9	177,683.6	177,683.6	0	15,048.9	255.2	18.3		273.5	273.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	1	283.9	64,549.3	64,549.3	0	6,524.4	94.6	8.07		102.7	102.7
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	1.036709935	12.5	2,912.7	2,912.7	0	204.8	4.84	0.1017		4.94	5.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	0	0.6310	197.6	0	197.6	10.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	1.024272138	58.2	6,346.7	6,346.7	0	952.9	10.7	0.4686		11.2	11.4
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	0	2.85	293.7	0	293.7	46.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	1.010199449	73.4	10,903.2	10,903.2	0	1,201.1	19.5	0.6423		20.1	20.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	0	1.48	205.2	0	205.2	24.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 POLA Class 8-NG	T7 POLA-NG	1.015562295	0.0980	14.4	14.4	0	1.60	0.0176	0.0016		0.0192	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	1.047763105	205.1	8,715.7	8,715.7	0	1,052.3	16.8	0.6712		17.4	18.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Public Class 8-Elec	T7 Public-Oth	0	14.6	884.2	0	884.2	75.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Public Class 8-NG	T7 Public-NG	1.068071516	18.7	849.5	849.5	0	95.9	1.32	0.1117		1.43	1.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	1.010612531	93.8	6,083.5	6,083.5	0	431.4	24.6	0.3485		25.0	25.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	0	11.2	710.0	0	710.0	51.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	1.032823012	76.7	4,968.7	4,968.7	0	353.0	7.31	0.5123		7.82	8.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	1.109177358	10.5	669.6	669.6	0	99.4	1.13	0.0464		1.18	1.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	0	1.60	122.5	0	122.5	15.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	1.088637103	0.4247	26.4	26.4	0	4.00	0.0318	0.0040		0.0357	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	1.055205177	91.7	4,683.2	4,683.2	0	863.4	8.17	0.4460		8.61	9.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	0	5.96	486.8	0	486.8	56.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	1.04278806	3.27	165.7	165.7	0	30.8	0.2111	0.0307		0.2418	0.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	1.057258325	517.7	25,314.0	25,314.0	0	4,876.5	43.5	2.48		46.0	48.6
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	0	30.4	2,321.5	0	2,321.5	286.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Single Other Class 8-NG	T7 Single-NG	1.046554009	18.2	881.7	881.7	0	171.4	1.10	0.1686		1.27	1.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1.022694346	1,446.3	93,284.6	93,284.6	0	21,014.5	147.7	12.2		159.9	163.5
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	0	53.5	4,164.1	0	4,164.1	777.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	1.011371168	24.6	1,566.9	1,566.9	0	357.2	1.87	0.4184		2.29	2.3
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	1.051477224	10.8	458.1	458.1	0	138.8	0.8234	0.0177		0.8411	0.9
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	0	0.6672	40.6	0	40.6	8.54				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7IS-Elec	T7IS - Gas	0	0.0162	4.31	0	4.31	0.3248				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	T7IS-Gas	T7IS - Gas	1.057635132	0.1836	29.6	29.6	0	3.67	0.0609		0.0002	0.0611	0.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	UBUS-Dsl	UBUS - Dsl	0.999822525	12.5	1,300.7	1,300.7	0	49.8	1.10			1.10	1.1
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	UBUS-Elec	UBUS - Oth	1	14.8	1,626.6	0	1,626.6	59.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	UBUS-Gas	UBUS - Gas	0.980790845	40.5	2,838.7	2,838.7	0	162.1	5.24		0.0165	5.26	5.2
1	Sub-Areas	55	Tulare (SJV)	2030	Annual	Tulare (SJV)-2030-Annual	UBUS-NG	UBUS - NG	0.999633461	55.2	6,168.3	6,168.3	0	220.7	5.12			5.12	5.1

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	All Vehicles	All Vehicles	1	267,935.1	11,259,360.1	10,247,560.4	1,011,799.7	1,390,497.1	3,989.7	70.2	73.2	4,133.1	4,292.3
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	All Other Buses-Dsl	All Other Buses - Dsl	1	63.7	2,924.6	2,924.6	0	567.2	3.40	0.0404		3.44	3.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	All Other Buses-NG	All Other Buses - Oth	1	4.08	180.0	180.0	0	36.3	0.1754	0.0051		0.1805	0.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDA-Dsl	LDA - Dsl	1	97.4	3,473.7	3,473.7	0	423.7	0.7488			0.7488	0.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDA-Elec	LDA - Oth	1	12,210.8	552,408.1	0	552,408.1	58,407.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDA-Gas	LDA - Gas	1	111,943.5	4,769,356.7	4,769,356.7	0	515,770.6	1,215.2		30.4	1,245.6	1,245.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDA-Phe	LDA - Gas	1	4,936.5	221,039.0	94,342.7	126,696.3	20,412.6	27.5		1.24	28.8	28.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT1-Dsl	LDT1 - Dsl	1	0.0602	2.68	2.68	0	0.2861	0.0010			0.0010	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT1-Elec	LDT1 - Oth	1	115.5	5,623.2	0	5,623.2	565.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT1-Gas	LDT1 - Gas	1	7,976.5	295,981.0	295,981.0	0	34,748.6	90.4		2.50	92.9	92.9
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT1-Phe	LDT1 - Gas	1	92.2	4,429.4	1,814.0	2,615.4	381.1	0.5302		0.0255	0.5558	0.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT2-Dsl	LDT2 - Dsl	1	198.7	8,501.1	8,501.1	0	931.7	2.40			2.40	2.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT2-Elec	LDT2 - Oth	1	1,508.6	49,618.4	0	49,618.4	7,332.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT2-Gas	LDT2 - Gas	1	57,479.2	2,364,001.5	2,364,001.5	0	264,203.4	729.3		19.2	748.6	748.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LDT2-Phe	LDT2 - Gas	1	1,177.3	53,132.7	22,130.7	31,001.9	4,868.3	6.47		0.3498	6.82	6.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LHD1-Dsl	LHD1 - Dsl	1.183683892	3,420.2	111,096.1	111,096.1	0	43,022.3	76.2	0.4811		76.7	90.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LHD1-Elec	LHD1 - Oth	0	936.7	53,741.9	0	53,741.9	13,154.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LHD1-Gas	LHD1 - Gas	1.197295419	3,502.3	128,189.4	128,189.4	0	52,179.7	110.9	0.4026	1.11	112.4	134.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LHD2-Dsl	LHD2 - Dsl	1.179348107	1,385.7	45,629.6	45,629.6	0	17,430.2	36.9	0.3120		37.2	43.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LHD2-Elec	LHD2 - Oth	0	227.5	12,593.2	0	12,593.2	3,015.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	LHD2-Gas	LHD2 - Gas	1.180911858	467.2	15,900.8	15,900.8	0	6,959.9	10.7	0.0638	0.1467	10.9	12.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	MCY-Gas	MCY - Gas	1	5,254.3	29,385.2	29,385.2	0	10,508.6	5.16		0.3119	5.48	5.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	MDV-Dsl	MDV - Dsl	1	594.6	21,127.4	21,127.4	0	2,605.7	8.53			8.53	8.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	MDV-Elec	MDV - Oth	1	1,449.3	47,170.1	0	47,170.1	7,020.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	MDV-Gas	MDV - Gas	1	41,901.2	1,567,974.3	1,567,974.3	0	185,548.5	603.4		17.4	620.8	620.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	MDV-Phe	MDV - Gas	1	772.2	33,953.8	14,297.5	19,656.3	3,193.2	4.19		0.2850	4.47	4.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	MH-Dsl	MH - Dsl	1	294.0	2,513.8	2,513.8	0	29.4	2.98			2.98	3.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	MH-Gas	MH - Gas	1	372.7	3,787.9	3,787.9	0	37.3	8.05		0.0010	8.05	8.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	Motor Coach-Dsl	Motor Coach - Dsl	1	19.0	2,298.1	2,298.1	0	436.7	4.02	0.1907		4.21	4.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	OBUS-Elec	OBUS - Oth	0	9.24	756.3	0	756.3	184.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	OBUS-Gas	OBUS - Gas	1.279262733	57.9	1,974.6	1,974.6	0	1,157.8	3.51	0.0224	0.0300	3.56	4.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	PTO-Dsl	PTO-Dsl	1.250430277		5,766.9	5,766.9	0		11.8			11.8	14.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	PTO-Elec	PTO-Oth	0		1,733.8	0	1,733.8					0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	SBUS-Dsl	SBUS - Dsl	1.143884591	274.4	5,850.0	5,850.0	0	3,972.7	6.85	0.6221		7.47	8.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	SBUS-Elec	SBUS - Oth	0	6.15	1,782.7	0	1,782.7	856.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	SBUS-Gas	SBUS - Gas	1.078656693	83.3	4,556.1	4,556.1	0	333.3	4.10	0.2238	0.0149	4.34	4.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	SBUS-NG	SBUS-Oth	1.135726897	75.7	1,680.2	1,680.2	0	1,096.6	1.98	0.3357		2.32	2.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	1.451985741	3.98	273.8	273.8	0	91.4	0.3140	0.0023		0.3164	0.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	0	1.87	156.3	0	156.3	42.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	1.441597007	4.97	378.4	378.4	0	114.3	0.4349	0.0029		0.4378	0.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	0	2.27	211.6	0	211.6	52.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	1.474929403	21.3	966.0	966.0	0	490.2	1.10	0.0124		1.11	1.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	0	10.6	575.7	0	575.7	244.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	1.164481549	39.3	7,926.8	7,926.8	0	902.7	8.01	0.0222		8.03	9.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	0	7.88	1,743.6	0	1,743.6	181.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	1.283810616	47.0	1,544.2	1,544.2	0	670.7	1.85	0.0959		1.94	2.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	0	15.7	607.1	0	607.1	224.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	1.280431254	33.2	1,087.2	1,087.2	0	473.9	1.30	0.0679		1.37	1.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	0	11.0	423.6	0	423.6	156.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	1.282796013	201.9	6,611.1	6,611.1	0	2,880.7	7.93	0.4133		8.34	10.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	0	67.0	2,579.0	0	2,579.0	955.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	1.131080686	46.1	2,270.0	2,270.0	0	658.1	2.77	0.1019		2.87	3.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	0	9.47	500.5	0	500.5	135.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	1.101088838	0.5962	30.8	30.8	0	8.51	0.0333	0.0028		0.0361	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	1.310615865	269.5	10,508.5	10,508.5	0	3,115.9	12.2	0.5941		12.7	16.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	0	92.5	4,399.9	0	4,399.9	1,068.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	1.311366271	672.7	26,107.9	26,107.9	0	7,776.4	30.2	1.48		31.7	41.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	0	230.1	10,969.5	0	10,969.5	2,659.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	1.309158661	594.1	23,217.0	23,217.0	0	6,867.8	26.8	1.31		28.1	36.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	0	202.8	9,626.0	0	9,626.0	2,343.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	1.231213973	480.6	17,445.9	17,445.9	0	5,555.8	20.2	1.14		21.4	26.3
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	0	88.6	5,774.8	0	5,774.8	1,023.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	1.182188105	8.47	350.7	350.7	0	98.0	0.3330	0.0428		0.3758	0.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	1.334858603	9.53	430.9	430.9	0	110.1	0.4957	0.0211		0.5168	0.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	0	3.13	188.8	0	188.8	36.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	1.083514656	315.0	17,027.8	17,027.8	0	3,640.9	18.3	0.7294		19.1	20.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	0	29.4	2,341.1	0	2,341.1	340.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	1.06970232	5.63	327.3	327.3	0	65.1	0.3034	0.0277		0.3312	0.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	1	3.42	249.0	249.0	0	78.5	0.2656	0.0019		0.2675	0.3
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	1	4.24	341.6	341.6	0	97.4	0.3652	0.0023		0.3675	0.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	1	18.6	892.7	892.7	0	428.0	0.9461	0.0101		0.9562	1.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	1	23.6	6,490.7	6,490.7	0	542.4	6.30	0.0128		6.31	6.3

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	1.20144416	17.0	597.9	597.9	0	87.1	0.7485	0.0564		0.8049	1.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 4-Elec	T6 Public-Oth	0	4.44	187.5	0	187.5	22.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 4-NG	T6 Public-NG	1.215889022	1.88	69.8	69.8	0	9.66	0.0714	0.0128		0.0842	0.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	1.211039301	35.7	1,246.3	1,246.3	0	182.9	1.56	0.1202		1.68	2.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 5-Elec	T6 Public-Oth	0	9.36	394.2	0	394.2	48.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 5-NG	T6 Public-NG	1.190844369	4.71	167.0	167.0	0	24.1	0.1730	0.0322		0.2052	0.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	1.203559225	43.4	1,544.0	1,544.0	0	222.7	1.93	0.1441		2.08	2.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 6-Elec	T6 Public-Oth	0	11.3	467.5	0	467.5	58.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 6-NG	T6 Public-NG	1.197967985	5.05	187.0	187.0	0	25.9	0.1919	0.0346		0.2265	0.3
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	1.216413024	61.8	2,600.7	2,600.7	0	317.3	3.21	0.1993		3.41	4.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 7-Elec	T6 Public-Oth	0	14.5	811.7	0	811.7	74.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Public Class 7-NG	T6 Public-NG	1.199773031	7.98	340.3	340.3	0	40.9	0.3504	0.0553		0.4057	0.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	1.457593313	10.3	406.2	406.2	0	131.4	0.4657	0.0164		0.4821	0.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	0	5.45	232.3	0	232.3	69.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 5-NG	T6 Utility-NG	1.419338573	0.0228	0.9058	0.9058	0	0.2920	0.0009	0.0001		0.0009	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	1.457118708	1.94	76.8	76.8	0	24.8	0.0880	0.0031		0.0911	0.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	0	1.03	43.9	0	43.9	13.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 6-NG	T6 Utility-NG	1.397293684	0.0046	0.1790	0.1790	0	0.0585	0.0002	0.0000		0.0002	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	1.520008195	2.15	102.2	102.2	0	27.5	0.1170	0.0034		0.1204	0.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	0	1.15	65.7	0	65.7	14.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6 Utility Class 7-NG	T6 Utility-NG	1.43917019	0.0048	0.2306	0.2306	0	0.0620	0.0002	0.0000		0.0002	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6TS-Elec	T6TS - Gas	0	49.3	4,083.9	0	4,083.9	986.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T6TS-Gas	T6TS - Gas	1.288410066	185.2	9,735.8	9,735.8	0	3,704.9	17.2	0.0938	0.1346	17.4	22.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	1.158501057	682.3	137,730.8	137,730.8	0	15,678.3	197.9	15.4		213.2	247.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	0	131.8	28,629.1	0	28,629.1	3,029.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	1	702.0	196,688.8	196,688.8	0	16,132.3	269.7	18.8		288.5	288.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	1	304.2	71,453.5	71,453.5	0	6,991.5	98.4	8.17		106.6	106.6
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	1.135064548	11.7	3,113.3	3,113.3	0	191.3	4.79	0.0864		4.87	5.5
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	0	1.74	567.0	0	567.0	28.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	1.09115281	56.7	6,478.7	6,478.7	0	927.1	10.0	0.4193		10.5	11.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	0	7.39	825.5	0	825.5	120.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	1.049485864	66.4	12,369.8	12,369.8	0	1,085.7	20.9	0.5396		21.4	22.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	0	4.93	890.7	0	890.7	80.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 POLA Class 8-NG	T7 POLA-NG	1.041446127	0.1993	37.0	37.0	0	3.26	0.0448	0.0033		0.0481	0.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	1.183149018	184.7	7,527.7	7,527.7	0	947.5	14.1	0.5760		14.7	17.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Public Class 8-Elec	T7 Public-Oth	0	39.5	2,228.6	0	2,228.6	202.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Public Class 8-NG	T7 Public-NG	1.238340539	19.6	824.2	824.2	0	100.8	1.28	0.1181		1.39	1.7
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	1.053778158	72.4	4,700.6	4,700.6	0	333.2	18.5	0.2604		18.8	19.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	0	31.2	1,999.5	0	1,999.5	143.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	1.147086786	80.4	5,209.7	5,209.7	0	369.8	7.43	0.5344		7.96	9.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	1.452773771	8.32	506.8	506.8	0	78.4	0.8314	0.0352		0.8666	1.3
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	0	4.04	299.9	0	299.9	38.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	1.394488528	0.3165	18.9	18.9	0	2.98	0.0224	0.0029		0.0253	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	1.205773565	82.2	4,032.0	4,032.0	0	774.3	6.88	0.3861		7.27	8.8
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	0	15.8	1,205.9	0	1,205.9	149.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	1.171526976	2.93	144.5	144.5	0	27.6	0.1799	0.0275		0.2074	0.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	1.239982262	485.8	23,504.6	23,504.6	0	4,575.9	39.8	2.25		42.0	52.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	0	96.9	7,226.1	0	7,226.1	912.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Single Other Class 8-NG	T7 Single-NG	1.208840276	17.1	836.7	836.7	0	160.9	1.03	0.1586		1.19	1.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1.076030334	1,565.4	97,388.4	97,388.4	0	22,745.0	146.7	12.5		159.1	171.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	0	140.0	10,637.7	0	10,637.7	2,033.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	1.040495026	25.6	1,580.4	1,580.4	0	372.2	1.84	0.4341		2.27	2.4
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	1.211506464	9.53	392.7	392.7	0	122.0	0.6949	0.0150		0.7099	0.9
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	0	1.99	112.2	0	112.2	25.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7IS-Elec	T7IS - Gas	0	0.0518	11.9	0	11.9	1.04				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	T7IS-Gas	T7IS - Gas	1.252786315	0.2070	30.5	30.5	0	4.14	0.0610		0.0002	0.0611	0.1
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	UBUS-Dsl	UBUS - Dsl	0.998378359	8.60	1,064.3	1,064.3	0	34.4	0.9123			0.9123	0.9
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	UBUS-Elec	UBUS - Oth	1	62.3	5,383.6	0	5,383.6	249.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	UBUS-Gas	UBUS - Gas	0.955711569	18.9	1,348.4	1,348.4	0	75.7	2.32		0.0068	2.32	2.2
1	Sub-Areas	55	Tulare (SJV)	2035	Annual	Tulare (SJV)-2035-Annual	UBUS-NG	UBUS - NG	0.999096175	34.7	4,287.7	4,287.7	0	138.6	3.56			3.56	3.6

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	All Vehicles	All Vehicles	1	274,699.8	11,585,532.9	10,231,358.4	1,354,174.5	1,431,566.3	3,787.0	74.1	68.0	3,929.0	4,269.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	All Other Buses-Dsl	All Other Buses - Dsl	1	66.5	2,935.7	2,935.7	0	591.7	3.31	0.0399		3.35	3.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	All Other Buses-NG	All Other Buses - Oth	1	5.01	207.1	207.1	0	44.6	0.1960	0.0061		0.2020	0.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDA-Dsl	LDA - Dsl	1	71.0	2,813.8	2,813.8	0	319.1	0.5529			0.5529	0.6
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDA-Elec	LDA - Oth	1	15,447.4	645,677.7	0	645,677.7	72,142.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDA-Gas	LDA - Gas	1	113,986.8	4,831,326.3	4,831,326.3	0	525,985.0	1,172.6		29.1	1,201.7	1,201.7
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDA-Phe	LDA - Gas	1	5,353.3	228,807.6	93,506.2	135,301.4	22,135.9	27.3		1.28	28.6	28.6
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT1-Dsl	LDT1 - Dsl	1	0.0807	3.28	3.28	0	0.3724	0.0012			0.0012	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT1-Elec	LDT1 - Oth	1	203.2	8,626.1	0	8,626.1	953.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT1-Gas	LDT1 - Gas	1	7,301.1	282,856.7	282,856.7	0	32,771.6	79.7		2.14	81.8	81.8
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT1-Phe	LDT1 - Gas	1	156.4	6,595.8	2,686.2	3,909.5	646.8	0.7850		0.0430	0.8281	0.8
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT2-Dsl	LDT2 - Dsl	1	228.3	9,314.5	9,314.5	0	1,052.9	2.53			2.53	2.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT2-Elec	LDT2 - Oth	1	2,327.1	68,109.2	0	68,109.2	10,911.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT2-Gas	LDT2 - Gas	1	61,088.9	2,459,196.4	2,459,196.4	0	279,425.0	716.5		19.0	735.5	735.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LDT2-Phe	LDT2 - Gas	1	1,612.7	66,517.3	27,160.2	39,357.0	6,668.7	7.94		0.4680	8.40	8.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LHD1-Dsl	LHD1 - Dsl	1.586890542	1,914.8	62,588.7	62,588.7	0	24,085.6	41.8	0.2529		42.0	66.7
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LHD1-Elec	LHD1 - Oth	0	2,348.5	110,342.3	0	110,342.3	33,015.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LHD1-Gas	LHD1 - Gas	1.625233765	2,507.1	90,676.7	90,676.7	0	37,351.7	74.5	0.2767	0.7460	75.6	122.8
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LHD2-Dsl	LHD2 - Dsl	1.556295501	937.1	29,444.3	29,444.3	0	11,787.4	23.0	0.2027		23.2	36.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LHD2-Elec	LHD2 - Oth	0	555.9	25,451.1	0	25,451.1	7,356.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	LHD2-Gas	LHD2 - Gas	1.594353597	286.5	9,986.7	9,986.7	0	4,268.3	6.10	0.0371	0.0842	6.22	9.9
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	MCY-Gas	MCY - Gas	1	5,071.4	28,338.8	28,338.8	0	10,142.8	5.00		0.2550	5.26	5.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	MDV-Dsl	MDV - Dsl	1	436.1	16,222.1	16,222.1	0	1,927.7	5.88			5.88	5.9
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	MDV-Elec	MDV - Oth	1	2,161.2	62,474.2	0	62,474.2	10,089.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	MDV-Gas	MDV - Gas	1	37,829.1	1,446,892.2	1,446,892.2	0	169,088.3	511.8		14.4	526.2	526.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	MDV-Phe	MDV - Gas	1	1,035.6	41,868.4	17,124.4	24,744.0	4,282.1	5.00		0.3693	5.37	5.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	MH-Dsl	MH - Dsl	1	211.3	1,978.0	1,978.0	0	21.1	2.36			2.36	2.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	MH-Gas	MH - Gas	1	287.2	3,238.8	3,238.8	0	28.7	6.89		0.0008	6.89	6.9
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	Motor Coach-Dsl	Motor Coach - Dsl	1	18.7	2,372.3	2,372.3	0	429.2	3.97	0.1709		4.15	4.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	OBUS-Elec	OBUS - Oth	0	19.1	1,341.3	0	1,341.3	382.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	OBUS-Gas	OBUS - Gas	1.908523492	38.5	1,244.5	1,244.5	0	771.0	2.11	0.0144	0.0193	2.14	4.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	PTO-Dsl	PTO-Dsl	1.803485583		4,742.2	4,742.2	0		9.13			9.13	16.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	PTO-Elec	PTO-Oth	0		4,246.4	0	4,246.4					0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	SBUS-Dsl	SBUS - Dsl	1.583661815	193.4	3,948.9	3,948.9	0	2,800.5	4.48	0.3969		4.88	7.7
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	SBUS-Elec	SBUS - Oth	0	13.3	4,254.5	0	4,254.5	2,145.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	SBUS-Gas	SBUS - Gas	1.333174415	26.9	1,453.5	1,453.5	0	107.4	1.19	0.0654	0.0044	1.25	1.7
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	SBUS-NG	SBUS-Oth	1.537550324	63.8	1,278.2	1,278.2	0	923.6	1.43	0.2849		1.72	2.6
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	2.260146672	3.20	234.0	234.0	0	73.5	0.2599	0.0018		0.2617	0.6
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	0	4.27	333.3	0	333.3	98.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	2.256103779	3.93	321.6	321.6	0	90.4	0.3573	0.0022		0.3595	0.8
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	0	5.23	456.6	0	456.6	120.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	2.267324628	17.8	836.7	836.7	0	409.8	0.9283	0.0100		0.9384	2.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	0	24.0	1,196.9	0	1,196.9	550.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	1.260104459	46.8	9,665.2	9,665.2	0	1,076.2	9.48	0.0257		9.50	12.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	0	14.4	3,090.2	0	3,090.2	331.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	1.928272398	40.9	1,350.4	1,350.4	0	583.3	1.54	0.0785		1.62	3.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	0	41.8	1,487.1	0	1,487.1	596.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	1.927081738	28.7	947.7	947.7	0	409.2	1.09	0.0552		1.14	2.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	0	29.3	1,045.0	0	1,045.0	418.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	1.930831639	174.4	5,762.0	5,762.0	0	2,488.2	6.60	0.3354		6.93	13.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	0	178.9	6,359.7	0	6,359.7	2,553.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	1.499589013	43.3	2,202.4	2,202.4	0	617.2	2.55	0.0872		2.64	4.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	0	26.9	1,448.3	0	1,448.3	383.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	1.401444907	0.8525	44.2	44.2	0	12.2	0.0467	0.0038		0.0506	0.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	1.986592759	233.2	9,090.6	9,090.6	0	2,696.0	10.08	0.4824		10.6	21.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	0	238.5	10,573.6	0	10,573.6	2,757.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	1.987989581	579.7	22,601.6	22,601.6	0	6,701.7	25.1	1.20		26.3	52.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	0	592.8	26,303.6	0	26,303.6	6,852.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	1.986969621	514.5	20,041.2	20,041.2	0	5,948.2	22.2	1.06		23.3	46.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	0	525.4	23,278.9	0	23,278.9	6,073.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	1.620248979	423.8	17,143.0	17,143.0	0	4,898.8	19.1	0.9236		20.0	32.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	0	245.6	13,555.9	0	13,555.9	2,839.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	1.51109084	9.36	391.9	391.9	0	108.2	0.3624	0.0458		0.4082	0.6
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	2.0384636	8.19	369.4	369.4	0	94.6	0.4092	0.0169		0.4261	0.9
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	0	8.37	447.9	0	447.9	96.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	1.176736256	349.6	20,472.3	20,472.3	0	4,040.9	20.6	0.7373		21.4	25.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	0	71.2	5,036.8	0	5,036.8	822.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	1.138259876	7.86	470.3	470.3	0	90.9	0.4227	0.0372		0.4599	0.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	1	4.39	328.5	328.5	0	100.9	0.3422	0.0023		0.3445	0.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	1	5.40	450.6	450.6	0	124.0	0.4697	0.0029		0.4726	0.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	1	24.5	1,177.4	1,177.4	0	562.3	1.22	0.0129		1.24	1.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	1	30.3	8,561.3	8,561.3	0	695.2	8.02	0.0159		8.04	8.0

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	1.705462353	12.2	415.7	415.7	0	62.7	0.4977	0.0376		0.5353	0.9
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 4-Elec	T6 Public-Oth	0	9.99	394.7	0	394.7	51.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 4-NG	T6 Public-NG	1.660789344	1.61	55.3	55.3	0	8.25	0.0561	0.0110		0.0671	0.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	1.703186046	25.8	877.2	877.2	0	132.4	1.05	0.0802		1.13	1.9
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 5-Elec	T6 Public-Oth	0	21.0	829.7	0	829.7	107.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 5-NG	T6 Public-NG	1.625287755	3.61	122.7	122.7	0	18.5	0.1253	0.0247		0.1500	0.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	1.704442022	31.5	1,070.7	1,070.7	0	161.7	1.28	0.0969		1.38	2.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 6-Elec	T6 Public-Oth	0	25.7	1,009.7	0	1,009.7	131.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 6-NG	T6 Public-NG	1.636916979	4.24	145.1	145.1	0	21.8	0.1475	0.0291		0.1766	0.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	1.575874108	48.3	2,000.4	2,000.4	0	247.7	2.36	0.1453		2.51	4.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 7-Elec	T6 Public-Oth	0	31.4	1,519.2	0	1,519.2	161.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Public Class 7-NG	T6 Public-NG	1.50053842	6.73	279.2	279.2	0	34.5	0.2842	0.0464		0.3306	0.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	2.261598693	6.75	267.2	267.2	0	86.3	0.2974	0.0104		0.3078	0.7
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	0	9.21	379.5	0	379.5	117.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 5-NG	T6 Utility-NG	2.150256725	0.0152	0.6032	0.6032	0	0.1949	0.0006	0.0001		0.0006	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	2.260663191	1.28	50.5	50.5	0	16.3	0.0562	0.0020		0.0582	0.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	0	1.74	71.7	0	71.7	22.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 6-NG	T6 Utility-NG	2.149528695	0.0029	0.1140	0.1140	0	0.0369	0.0001	0.0000		0.0001	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	2.294687728	1.42	69.2	69.2	0	18.2	0.0770	0.0022		0.0792	0.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	0	1.94	100.9	0	100.9	24.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6 Utility Class 7-NG	T6 Utility-NG	2.181976653	0.0032	0.1562	0.1562	0	0.0410	0.0001	0.0000		0.0002	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6TS-Elec	T6TS - Gas	0	109.3	7,635.2	0	7,635.2	2,186.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T6TS-Gas	T6TS - Gas	1.948665831	131.8	6,734.8	6,734.8	0	2,636.1	11.4	0.0626	0.0898	11.5	22.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	1.23266703	773.8	159,535.1	159,535.1	0	17,781.0	223.1	17.0		240.1	296.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	0	212.7	45,536.5	0	45,536.5	4,887.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	1	853.8	242,457.9	242,457.9	0	19,620.6	324.8	22.3		347.1	347.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	1	368.0	88,080.6	88,080.6	0	8,456.7	117.9	9.62		127.5	127.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	1.204990253	12.2	2,948.7	2,948.7	0	199.6	4.42	0.0871		4.51	5.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	0	2.81	745.7	0	745.7	46.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	1.186097079	61.8	7,175.0	7,175.0	0	1,011.4	10.7	0.4415		11.2	13.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	0	14.3	1,640.9	0	1,640.9	234.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	1.138385562	59.1	11,018.4	11,018.4	0	966.5	16.7	0.4291		17.2	19.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	0	10.5	1,928.3	0	1,928.3	171.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 POLA Class 8-NG	T7 POLA-NG	1.076405653	0.2750	51.3	51.3	0	4.50	0.0613	0.0045		0.0657	0.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	1.502391447	145.7	5,805.3	5,805.3	0	747.4	10.30	0.4150		10.7	16.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Public Class 8-Elec	T7 Public-Oth	0	88.2	4,191.7	0	4,191.7	452.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Public Class 8-NG	T7 Public-NG	1.556514394	17.8	713.4	713.4	0	91.2	1.08	0.1061		1.18	1.8
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	1.26695296	33.5	2,175.1	2,175.1	0	154.1	8.10	0.1135		8.22	10.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	0	73.5	4,745.8	0	4,745.8	338.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	1.507835231	79.3	5,135.3	5,135.3	0	364.7	7.04	0.5196		7.56	11.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	2.160092575	5.70	353.1	353.1	0	53.7	0.5595	0.0229		0.5824	1.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	0	7.07	479.2	0	479.2	66.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	2.026275116	0.2082	12.9	12.9	0	1.96	0.0150	0.0019		0.0169	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	1.704055109	59.7	2,885.6	2,885.6	0	562.7	4.71	0.2568		4.96	8.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	0	39.2	2,519.8	0	2,519.8	369.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	1.605675448	2.15	104.4	104.4	0	20.3	0.1249	0.0199		0.1448	0.2
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	1.789275157	396.0	19,812.2	19,812.2	0	3,730.2	32.1	1.68		33.8	60.5
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	0	278.9	18,386.6	0	18,386.6	2,627.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Single Other Class 8-NG	T7 Single-NG	1.696931821	14.2	714.2	714.2	0	133.7	0.8486	0.1303		0.9789	1.7
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1.153835943	1,770.0	111,673.1	111,673.1	0	25,718.5	156.3	13.0		169.4	195.4
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	0	307.8	21,684.8	0	21,684.8	4,472.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	1.086951942	27.9	1,753.8	1,753.8	0	404.7	1.96	0.4613		2.42	2.6
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	1.629301501	7.14	291.8	291.8	0	91.4	0.4946	0.0105		0.5051	0.8
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	0	4.59	219.3	0	219.3	58.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7IS-Elec	T7IS - Gas	0	0.1452	24.5	0	24.5	2.90				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	T7IS-Gas	T7IS - Gas	1.897138164	0.1847	23.2	23.2	0	3.69	0.0446		0.0001	0.0448	0.1
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	UBUS-Dsl	UBUS - Dsl	0.90399137	0.5611	40.5	40.5	0	2.24	0.0293			0.0293	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	UBUS-Elec	UBUS - Oth	1	117.7	11,682.3	0	11,682.3	470.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	UBUS-Gas	UBUS - Gas	0.904166491	5.47	346.3	346.3	0	21.9	0.3176		0.0006	0.3182	0.3
1	Sub-Areas	55	Tulare (SJV)	2045	Annual	Tulare (SJV)-2045-Annual	UBUS-NG	UBUS - NG	0.90399137	2.26	163.2	163.2	0	9.04	0.1349			0.1349	0.1

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Vehicles	All Vehicles	1	296,035.2	12,458,424.7	10,945,426.9	1,512,997.7	1,550,697.6	4,061.8	84.1	72.1	4,217.9	4,633.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-Dsl	All Other Buses - Dsl	1	71.2	3,115.9	3,115.9	0	633.3	3.48	0.0419		3.52	3.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-NG	All Other Buses - Oth	1	5.75	236.8	236.8	0	51.2	0.2234	0.0069		0.2304	0.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Dsl	LDA - Dsl	1	74.2	2,969.5	2,969.5	0	335.5	0.5746			0.5746	0.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Elec	LDA - Oth	1	16,993.8	696,778.3	0	696,778.3	79,042.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Gas	LDA - Gas	1	122,847.8	5,160,842.2	5,160,842.2	0	566,811.3	1,243.0		31.2	1,274.1	1,274.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Phe	LDA - Gas	1	5,790.7	244,195.7	99,489.9	144,705.8	23,944.7	29.2		1.38	30.6	30.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Dsl	LDT1 - Dsl	1	0.0906	3.59	3.59	0	0.4143	0.0013			0.0013	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Elec	LDT1 - Oth	1	240.2	9,741.3	0	9,741.3	1,113.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Gas	LDT1 - Gas	1	7,794.5	300,842.0	300,842.0	0	35,092.6	83.4		2.25	85.7	85.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Phe	LDT1 - Gas	1	183.5	7,449.6	3,031.6	4,418.0	758.9	0.89		0.0504	0.94	0.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Dsl	LDT2 - Dsl	1	250.4	10,043.0	10,043.0	0	1,149.3	2.69			2.69	2.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Elec	LDT2 - Oth	1	2,652.8	75,109.0	0	75,109.0	12,328.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Gas	LDT2 - Gas	1	66,042.0	2,631,891.1	2,631,891.1	0	301,891.3	757.9		20.3	778.2	778.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Phe	LDT2 - Gas	1	1,809.8	72,837.0	29,681.9	43,155.1	7,483.7	8.7		0.5238	9.2	9.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Dsl	LHD1 - Dsl	1.726748671	1,682.4	57,172.6	57,172.6	0	21,162.5	37.7	0.2165		37.9	65.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Elec	LHD1 - Oth	0	2,941.9	130,406.0	0	130,406.0	41,349.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Gas	LHD1 - Gas	1.768707104	2,366.0	87,687.5	87,687.5	0	35,250.3	71.1	0.2578	0.69	72.1	127.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Dsl	LHD2 - Dsl	1.683774128	871.2	27,713.3	27,713.3	0	10,958.1	21.5	0.1852		21.7	36.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Elec	LHD2 - Oth	0	695.9	30,107.3	0	30,107.3	9,207.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Gas	LHD2 - Gas	1.73619816	265.3	9,496.5	9,496.5	0	3,953.2	5.7	0.0338	0.0765	5.8	10.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MCY-Gas	MCY - Gas	1	5,271.1	29,870.3	29,870.3	0	10,542.1	5.26		0.2411	5.50	5.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Dsl	MDV - Dsl	1	451.8	16,837.3	16,837.3	0	2,002.3	5.96			5.96	6.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Elec	MDV - Oth	1	2,453.2	68,650.7	0	68,650.7	11,352.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Gas	MDV - Gas	1	39,583.5	1,523,044.7	1,523,044.7	0	178,283.1	531.1		14.8	546.0	546.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Phe	MDV - Gas	1	1,161.6	45,797.3	18,675.4	27,121.9	4,803.4	5.45		0.4124	5.87	5.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Dsl	MH - Dsl	1	202.7	1,974.6	1,974.6	0	20.3	2.35			2.35	2.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Gas	MH - Gas	1	295.9	3,378.3	3,378.3	0	29.6	7.2		0.0008	7.2	7.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	Motor Coach-Dsl	Motor Coach - Dsl	1	20.4	2,570.9	2,570.9	0	468.2	4.29	0.1847		4.47	4.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Elec	OBUS - Oth	0	22.9	1,521.5	0	1,521.5	459.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Gas	OBUS - Gas	2.113049556	32.6	1,173.3	1,173.3	0	651.6	1.95	0.0118	0.0158	1.98	4.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Dsl	PTO-Dsl	1.958779143		5,008.9	5,008.9	0		9.5			9.5	18.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Elec	PTO-Oth	0		5,343.3	0	5,343.3					0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Dsl	SBUS - Dsl	1.887110322	171.4	3,533.0	3,533.0	0	2,482.6	3.97	0.3415		4.31	8.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Elec	SBUS - Oth	0	17.2	5,566.0	0	5,566.0	2,888.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Gas	SBUS - Gas	1.656580165	17.7	945.6	945.6	0	70.7	0.73	0.0406	0.0027	0.77	1.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-NG	SBUS-Oth	1.849213781	55.0	1,116.8	1,116.8	0	796.1	1.22	0.2460		1.47	2.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	2.36834335	3.61	268.0	268.0	0	82.9	0.2965	0.0020		0.2985	0.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	0	5.32	410.1	0	410.1	122.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	2.366725802	4.43	367.8	367.8	0	101.8	0.4071	0.0025		0.4095	1.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	0	6.52	562.4	0	562.4	149.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	2.370759412	20.2	959.8	959.8	0	464.2	1.06	0.0113		1.07	2.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	0	29.9	1,471.0	0	1,471.0	686.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	1.268295923	55.6	11,484.7	11,484.7	0	1,278.8	11.2	0.0305		11.3	14.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	0	17.7	3,762.3	0	3,762.3	405.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	2.12624237	44.2	1,477.1	1,477.1	0	630.2	1.67	0.0838		1.76	3.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	0	54.7	1,914.7	0	1,914.7	780.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	2.127142162	31.0	1,036.1	1,036.1	0	441.9	1.17	0.0588		1.23	2.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	0	38.4	1,346.0	0	1,346.0	548.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	2.129588417	188.4	6,301.4	6,301.4	0	2,688.6	7.14	0.3576		7.5	16.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	0	234.2	8,188.1	0	8,188.1	3,341.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	1.639253817	47.5	2,426.1	2,426.1	0	678.1	2.77	0.0930		2.86	4.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	0	36.6	1,937.9	0	1,937.9	521.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	1.525030696	1.02	52.7	52.7	0	14.6	0.0553	0.0046		0.0599	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	2.175184307	252.0	10,016.0	10,016.0	0	2,913.0	11.0	0.5143		11.5	25.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	0	312.3	13,489.3	0	13,489.3	3,609.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	2.177619025	626.0	24,896.0	24,896.0	0	7,236.7	27.4	1.28		28.6	62.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	0	776.4	33,562.1	0	33,562.1	8,975.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	2.176058378	555.7	22,077.4	22,077.4	0	6,423.5	24.3	1.13		25.4	55.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	0	688.0	29,704.6	0	29,704.6	7,953.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	1.748479515	460.3	19,129.8	19,129.8	0	5,321.0	21.1	0.97		22.0	38.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	0	340.4	17,584.1	0	17,584.1	3,934.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	1.627050763	10.6	450.0	450.0	0	122.8	0.4135	0.0514		0.4649	0.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	2.204913011	8.84	411.5	411.5	0	102.2	0.4523	0.0180		0.4704	1.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	0	11.0	565.4	0	565.4	126.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	1.201167746	407.1	24,011.8	24,011.8	0	4,705.7	23.8	0.84		24.6	29.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	0	95.7	6,475.9	0	6,475.9	1,106.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	1.155534794	9.49	566.4	566.4	0	109.7	0.5057	0.0445		0.5502	0.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	1	5.25	392.6	392.6	0	120.7	0.4082	0.0028		0.4110	0.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	1	6.45	538.6	538.6	0	148.2	0.5602	0.0034		0.5636	0.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	1	29.3	1,407.4	1,407.4	0	674.4	1.46	0.0154		1.48	1.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	1	36.2	10,233.6	10,233.6	0	831.8	9.6	0.0190		9.6	9.6

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	1.902652845	11.6	397.6	397.6	0	59.3	0.4695	0.0347		0.5042	1.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Elec	T6 Public-Oth	0	12.3	471.4	0	471.4	63.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-NG	T6 Public-NG	1.822926212	1.58	54.6	54.6	0	8.10	0.0553	0.0108		0.0661	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	1.896916797	24.5	842.9	842.9	0	125.9	1.00	0.0745		1.07	2.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Elec	T6 Public-Oth	0	25.9	990.3	0	990.3	132.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-NG	T6 Public-NG	1.795459111	3.46	118.8	118.8	0	17.8	0.1208	0.0237		0.1445	0.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	1.897685975	29.8	1,025.4	1,025.4	0	153.0	1.21	0.0896		1.30	2.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Elec	T6 Public-Oth	0	31.7	1,206.6	0	1,206.6	162.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-NG	T6 Public-NG	1.804351938	4.12	142.2	142.2	0	21.2	0.1441	0.0283		0.1724	0.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	1.70961891	46.9	1,970.8	1,970.8	0	240.8	2.30	0.1386		2.44	4.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Elec	T6 Public-Oth	0	38.6	1,804.5	0	1,804.5	198.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-NG	T6 Public-NG	1.611168236	6.61	277.4	277.4	0	33.9	0.2815	0.0454		0.3269	0.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	2.378675788	6.79	271.8	271.8	0	86.9	0.3016	0.0104		0.3121	0.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	0	10.2	418.1	0	418.1	131.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-NG	T6 Utility-NG	2.25647903	0.0153	0.6136	0.6136	0	0.1962	0.0006	0.0001		0.0006	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	2.37866275	1.28	51.4	51.4	0	16.4	0.0570	0.0020		0.0590	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	0	1.93	79.0	0	79.0	24.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-NG	T6 Utility-NG	2.256547082	0.0029	0.1160	0.1160	0	0.0371	0.0001	0.0000		0.0001	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	2.401152153	1.43	70.7	70.7	0	18.3	0.0786	0.0022		0.0807	0.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	0	2.15	110.7	0	110.7	27.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-NG	T6 Utility-NG	2.279012157	0.0032	0.1596	0.1596	0	0.0413	0.0002	0.0000		0.0002	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Elec	T6TS - Gas	0	133.5	8,765.7	0	8,765.7	2,670.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Gas	T6TS - Gas	2.146759254	128.1	6,616.6	6,616.6	0	2,562.5	11.1	0.0599	0.0859	11.2	24.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	1.234605719	901.2	185,345.1	185,345.1	0	20,710.5	259.0	19.8		278.7	344.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	0	250.0	53,237.8	0	53,237.8	5,744.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	1	995.5	282,078.5	282,078.5	0	22,875.5	377.4	26.0		403.4	403.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	1	429.5	102,474.1	102,474.1	0	9,869.8	137.1	11.2		148.3	148.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	1.204850264	13.3	3,160.9	3,160.9	0	217.1	4.74	0.0947		4.84	5.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	0	3.06	797.2	0	797.2	50.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	1.188452713	71.4	8,248.1	8,248.1	0	1,168.0	12.3	0.5097		12.8	15.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	0	16.7	1,903.8	0	1,903.8	272.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	1.153428121	62.8	11,530.4	11,530.4	0	1,027.8	17.3	0.4503		17.8	20.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	0	12.1	2,195.9	0	2,195.9	197.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-NG	T7 POLA-NG	1.083587214	0.3023	55.5	55.5	0	4.95	0.0662	0.0049		0.0711	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	1.646925098	140.9	5,663.7	5,663.7	0	722.8	9.9	0.3914		10.3	16.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Elec	T7 Public-Oth	0	110.6	5,047.8	0	5,047.8	567.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-NG	T7 Public-NG	1.675620097	17.7	714.6	714.6	0	90.8	1.08	0.1054		1.18	2.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	1.427382459	23.8	1,548.2	1,548.2	0	109.7	5.6	0.0786		5.7	8.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	0	89.9	5,814.1	0	5,814.1	413.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	1.645238076	84.9	5,499.4	5,499.4	0	390.5	7.5	0.5546		8.0	13.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	2.241644454	5.82	368.5	368.5	0	54.8	0.5822	0.0233		0.6055	1.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	0	7.98	530.8	0	530.8	75.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	2.101045151	0.2123	13.4	13.4	0	2.00	0.0157	0.0019		0.0176	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	1.866392244	57.4	2,859.4	2,859.4	0	541.1	4.60	0.2402		4.84	9.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	0	49.3	2,988.0	0	2,988.0	464.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	1.750635827	2.08	103.6	103.6	0	19.6	0.1226	0.0191		0.1417	0.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	1.949484279	403.8	21,116.7	21,116.7	0	3,803.4	33.8	1.67		35.5	69.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	0	372.2	23,391.0	0	23,391.0	3,506.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-NG	T7 Single-NG	1.841033317	14.6	764.2	764.2	0	137.1	0.90	0.1332		1.03	1.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1.168728082	2,020.3	128,283.4	128,283.4	0	29,354.7	177.7	14.7		192.4	224.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	0	389.7	26,900.4	0	26,900.4	5,661.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	1.097070671	31.6	2,006.8	2,006.8	0	459.6	2.23	0.5221		2.75	3.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	1.75288722	7.05	289.8	289.8	0	90.3	0.4867	0.0103		0.4969	0.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	0	5.55	255.4	0	255.4	71.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Elec	T7IS - Gas	0	0.1816	28.1	0	28.1	3.63				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Gas	T7IS - Gas	2.073756144	0.1811	23.0	23.0	0	3.62	0.0440		0.0001	0.0441	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Dsl	UBUS - Dsl	0.90399137	0.5986	43.2	43.2	0	2.39	0.0313			0.0313	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Elec	UBUS - Oth	1	125.6	12,463.0	0	12,463.0	502.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Gas	UBUS - Gas	0.904170337	5.84	369.5	369.5	0	23.3	0.3389		0.0006	0.3395	0.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-NG	UBUS - NG	0.90399137	2.41	174.1	174.1	0	9.65	0.1440			0.1440	0.1

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Vehicles	All Vehicles	1	274,832.5	11,566,123.5	10,161,490.2	1,404,633.3	1,439,633.1	3,778.6	78.1	66.9	3,923.6	4,309.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-Dsl	All Other Buses - Dsl	1	66.1	2,892.8	2,892.8	0	587.9	3.23	0.0389		3.27	3.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	All Other Buses-NG	All Other Buses - Oth	1	5.34	219.9	219.9	0	47.5	0.2074	0.0064		0.2139	0.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Dsl	LDA - Dsl	1	68.9	2,756.8	2,756.8	0	311.5	0.5376			0.5376	0.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Elec	LDA - Oth	1	15,776.7	646,873.4	0	646,873.4	73,380.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Gas	LDA - Gas	1	114,049.1	4,791,210.7	4,791,210.7	0	526,215.0	1,158.6		28.9	1,187.6	1,187.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDA-Phe	LDA - Gas	1	5,376.0	226,705.8	92,364.2	134,341.7	22,229.8	27.0		1.28	28.3	28.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Dsl	LDT1 - Dsl	1	0.0841	3.34	3.34	0	0.3846	0.0012			0.0012	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Elec	LDT1 - Oth	1	223.0	9,043.7	0	9,043.7	1,033.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Gas	LDT1 - Gas	1	7,236.3	279,295.0	279,295.0	0	32,579.2	77.8		2.09	79.9	79.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT1-Phe	LDT1 - Gas	1	170.4	6,916.0	2,814.5	4,101.5	704.6	0.8224		0.0468	0.8692	0.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Dsl	LDT2 - Dsl	1	232.4	9,323.7	9,323.7	0	1,067.0	2.52			2.52	2.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Elec	LDT2 - Oth	1	2,462.8	69,729.5	0	69,729.5	11,445.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Gas	LDT2 - Gas	1	61,311.9	2,443,389.0	2,443,389.0	0	280,269.1	706.4		18.8	725.3	725.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LDT2-Phe	LDT2 - Gas	1	1,680.2	67,620.2	27,556.0	40,064.2	6,947.7	8.05		0.4862	8.54	8.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Dsl	LHD1 - Dsl	1.726748671	1,561.9	53,077.8	53,077.8	0	19,646.8	35.0	0.2010		35.2	60.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Elec	LHD1 - Oth	0	2,731.2	121,066.0	0	121,066.0	38,388.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD1-Gas	LHD1 - Gas	1.768707104	2,196.6	81,407.1	81,407.1	0	32,725.6	66.0	0.2393	0.6432	66.9	118.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Dsl	LHD2 - Dsl	1.683774128	808.8	25,728.5	25,728.5	0	10,173.3	20.0	0.1720		20.1	33.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Elec	LHD2 - Oth	0	646.1	27,950.9	0	27,950.9	8,548.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	LHD2-Gas	LHD2 - Gas	1.73619816	246.3	8,816.3	8,816.3	0	3,670.1	5.28	0.0314	0.0710	5.38	9.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MCY-Gas	MCY - Gas	1	4,893.5	27,730.9	27,730.9	0	9,787.1	4.90		0.2239	5.12	5.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Dsl	MDV - Dsl	1	419.5	15,631.4	15,631.4	0	1,858.9	5.58			5.58	5.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Elec	MDV - Oth	1	2,277.5	63,733.8	0	63,733.8	10,539.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Gas	MDV - Gas	1	36,748.4	1,413,960.8	1,413,960.8	0	165,514.1	493.1		13.8	506.9	506.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MDV-Phe	MDV - Gas	1	1,078.4	42,517.2	17,337.8	25,179.3	4,459.4	5.06		0.3829	5.45	5.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Dsl	MH - Dsl	1	188.1	1,833.2	1,833.2	0	18.8	2.19			2.19	2.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	MH-Gas	MH - Gas	1	274.7	3,136.3	3,136.3	0	27.5	6.67		0.0008	6.67	6.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	Motor Coach-Dsl	Motor Coach - Dsl	1	18.9	2,386.7	2,386.7	0	434.6	3.98	0.1714		4.15	4.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Elec	OBUS - Oth	0	21.3	1,412.5	0	1,412.5	426.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	OBUS-Gas	OBUS - Gas	2.113049556	30.2	1,089.2	1,089.2	0	605.0	1.81	0.0109	0.0147	1.84	3.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Dsl	PTO-Dsl	1.958779143		4,650.2	4,650.2	0		8.80			8.80	17.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	PTO-Elec	PTO-Oth	0		4,960.6	0	4,960.6					0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Dsl	SBUS - Dsl	1.887110322	159.2	3,280.0	3,280.0	0	2,304.8	3.68	0.3171		4.00	7.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Elec	SBUS - Oth	0	16.0	5,167.3	0	5,167.3	2,681.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-Gas	SBUS - Gas	1.656580165	16.4	877.9	877.9	0	65.6	0.6756	0.0377	0.0025	0.7158	1.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	SBUS-NG	SBUS-Oth	1.849213781	51.0	1,036.8	1,036.8	0	739.1	1.13	0.2284		1.36	2.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Dsl	T6 CAIRP small-Dsl	2.36834335	3.35	248.8	248.8	0	77.0	0.2753	0.0019		0.2772	0.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 4-Elec	T6 CAIRP small-Oth	0	4.94	380.8	0	380.8	113.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Dsl	T6 CAIRP small-Dsl	2.366725802	4.11	341.5	341.5	0	94.5	0.3779	0.0023		0.3802	0.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 5-Elec	T6 CAIRP small-Oth	0	6.06	522.1	0	522.1	139.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Dsl	T6 CAIRP small-Dsl	2.370759412	18.8	891.0	891.0	0	430.9	0.9856	0.0105		0.9961	2.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 6-Elec	T6 CAIRP small-Oth	0	27.7	1,365.6	0	1,365.6	637.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Dsl	T6 CAIRP heavy-Dsl	1.268295923	51.7	10,662.1	10,662.1	0	1,187.2	10.4	0.0283		10.5	13.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 CAIRP Class 7-Elec	T6 CAIRP heavy-Oth	0	16.4	3,492.8	0	3,492.8	376.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Dsl	T6 instate small-Dsl	2.12624237	41.0	1,371.3	1,371.3	0	585.1	1.55	0.0778		1.63	3.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 4-Elec	T6 instate small-Oth	0	50.8	1,777.6	0	1,777.6	724.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Dsl	T6 instate small-Dsl	2.127142162	28.7	961.8	961.8	0	410.2	1.09	0.0546		1.14	2.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 5-Elec	T6 instate small-Oth	0	35.7	1,249.6	0	1,249.6	509.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Dsl	T6 instate small-Dsl	2.129588417	174.9	5,850.1	5,850.1	0	2,496.1	6.63	0.3320		6.96	14.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 6-Elec	T6 instate small-Oth	0	217.4	7,601.6	0	7,601.6	3,102.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Dsl	T6 instate heavy-Dsl	1.639253817	44.1	2,252.4	2,252.4	0	629.5	2.57	0.0863		2.66	4.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-Elec	T6 instate heavy-Oth	0	33.9	1,799.1	0	1,799.1	484.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Delivery Class 7-NG	T6 instate heavy-NG	1.525030696	0.9468	48.9	48.9	0	13.5	0.0513	0.0042		0.0556	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Dsl	T6 instate small-Dsl	2.175184307	233.9	9,298.6	9,298.6	0	2,704.3	10.22	0.4775		10.7	23.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 4-Elec	T6 instate small-Oth	0	289.9	12,523.2	0	12,523.2	3,351.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Dsl	T6 instate small-Dsl	2.177619025	581.2	23,112.9	23,112.9	0	6,718.4	25.4	1.19		26.6	57.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 5-Elec	T6 instate small-Oth	0	720.8	31,158.3	0	31,158.3	8,332.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Dsl	T6 instate small-Dsl	2.176058378	515.9	20,496.2	20,496.2	0	5,963.4	22.5	1.05		23.6	51.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 6-Elec	T6 instate small-Oth	0	638.7	27,577.1	0	27,577.1	7,383.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Dsl	T6 instate heavy-Dsl	1.748479515	427.3	17,759.7	17,759.7	0	4,939.9	19.5	0.9031		20.4	35.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-Elec	T6 instate heavy-Oth	0	316.0	16,324.7	0	16,324.7	3,653.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Other Class 7-NG	T6 instate heavy-NG	1.627050763	9.86	417.8	417.8	0	114.0	0.3839	0.0478		0.4316	0.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Dsl	T6 instate small-Dsl	2.204913011	8.21	382.0	382.0	0	94.9	0.4199	0.0168		0.4367	1.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 6-Elec	T6 instate small-Oth	0	10.18	524.9	0	524.9	117.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Dsl	T6 instate heavy-Dsl	1.201167746	377.9	22,292.0	22,292.0	0	4,368.7	22.1	0.7772		22.9	27.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-Elec	T6 instate heavy-Oth	0	88.9	6,012.1	0	6,012.1	1,027.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Instate Tractor Class 7-NG	T6 instate heavy-NG	1.155534794	8.81	525.8	525.8	0	101.9	0.4695	0.0413		0.5108	0.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 4-Dsl	T6 OOS small-Dsl	1	4.87	364.5	364.5	0	112.0	0.3790	0.0026		0.3815	0.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 5-Dsl	T6 OOS small-Dsl	1	5.99	500.0	500.0	0	137.5	0.5200	0.0032		0.5232	0.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 6-Dsl	T6 OOS small-Dsl	1	27.2	1,306.6	1,306.6	0	626.1	1.36	0.0143		1.37	1.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 OOS Class 7-Dsl	T6 OOS heavy-Dsl	1	33.6	9,500.6	9,500.6	0	772.2	8.89	0.0176		8.90	8.9

Group	Area	GAI	Sub-Area	Cal. Year	Season	Title	Veh_Tech	EMFAC2011 Category	GHG_adj factor	Population	Total_VMT	cVMT	eVMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CO2_TOTEX_ADJ
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Dsl	T6 Public-Dsl	1.902652845	10.7	369.1	369.1	0	55.0	0.4358	0.0322		0.4681	0.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-Elec	T6 Public-Oth	0	11.4	437.6	0	437.6	58.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 4-NG	T6 Public-NG	1.822926212	1.47	50.7	50.7	0	7.52	0.0513	0.0100		0.0614	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Dsl	T6 Public-Dsl	1.896916797	22.8	782.5	782.5	0	116.9	0.9268	0.0691		0.9959	1.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-Elec	T6 Public-Oth	0	24.0	919.4	0	919.4	123.2				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 5-NG	T6 Public-NG	1.795459111	3.21	110.3	110.3	0	16.5	0.1121	0.0220		0.1341	0.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Dsl	T6 Public-Dsl	1.897685975	27.7	951.9	951.9	0	142.1	1.12	0.0832		1.21	2.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-Elec	T6 Public-Oth	0	29.4	1,120.2	0	1,120.2	150.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 6-NG	T6 Public-NG	1.804351938	3.83	132.0	132.0	0	19.6	0.1338	0.0262		0.1601	0.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Dsl	T6 Public-Dsl	1.70961891	43.6	1,829.7	1,829.7	0	223.5	2.13	0.1286		2.26	3.9
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-Elec	T6 Public-Oth	0	35.9	1,675.3	0	1,675.3	184.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Public Class 7-NG	T6 Public-NG	1.611168236	6.13	257.5	257.5	0	31.5	0.2613	0.0422		0.3035	0.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Dsl	T6 Utility-Dsl	2.378675788	6.30	252.4	252.4	0	80.7	0.2800	0.0097		0.2897	0.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-Elec	T6 Utility-Oth	0	9.51	388.2	0	388.2	121.7				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 5-NG	T6 Utility-NG	2.25647903	0.0142	0.5696	0.5696	0	0.1821	0.0005	0.0001		0.0006	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Dsl	T6 Utility-Dsl	2.37866275	1.19	47.7	47.7	0	15.2	0.0529	0.0018		0.0548	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-Elec	T6 Utility-Oth	0	1.80	73.4	0	73.4	23.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 6-NG	T6 Utility-NG	2.256547082	0.0027	0.1077	0.1077	0	0.0344	0.0001	0.0000		0.0001	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Dsl	T6 Utility-Dsl	2.401152153	1.33	65.7	65.7	0	17.0	0.0729	0.0020		0.0750	0.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-Elec	T6 Utility-Oth	0	2.00	102.8	0	102.8	25.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6 Utility Class 7-NG	T6 Utility-NG	2.279012157	0.0030	0.1482	0.1482	0	0.0383	0.0001	0.0000		0.0002	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Elec	T6TS - Gas	0	123.9	8,137.9	0	8,137.9	2,479.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T6TS-Gas	T6TS - Gas	2.146759254	118.9	6,142.7	6,142.7	0	2,379.0	10.27	0.0556	0.0798	10.40	22.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Dsl	T7 CAIRP-Dsl	1.234605719	836.7	172,070.3	172,070.3	0	19,227.2	240.4	18.4		258.8	319.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 CAIRP Class 8-Elec	T7 CAIRP-Oth	0	232.1	49,424.7	0	49,424.7	5,333.4				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NNOOS Class 8-Dsl	T7 NNOOS-Dsl	1	924.2	261,875.4	261,875.4	0	21,237.1	350.4	24.1		374.5	374.5
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 NOOS Class 8-Dsl	T7 NOOS-Dsl	1	398.7	95,134.7	95,134.7	0	9,162.9	127.2	10.41		137.7	137.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Dsl	T7 Other Port-Dsl	1.204850264	12.3	2,934.6	2,934.6	0	201.6	4.40	0.0879		4.49	5.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Other Port Class 8-Elec	T7 Other Port-Oth	0	2.85	740.1	0	740.1	46.5				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Dsl	T7 POAK-Dsl	1.188452713	66.3	7,657.4	7,657.4	0	1,084.3	11.4	0.4732		11.9	14.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POAK Class 8-Elec	T7 POAK-Oth	0	15.5	1,767.4	0	1,767.4	253.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Dsl	T7 POLA-Dsl	1.153428121	58.3	10,704.6	10,704.6	0	954.2	16.1	0.4181		16.5	19.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-Elec	T7 POLA-Oth	0	11.2	2,038.6	0	2,038.6	183.6				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 POLA Class 8-NG	T7 POLA-NG	1.083587214	0.2806	51.5	51.5	0	4.59	0.0615	0.0046		0.0660	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Dsl	T7 Public-Dsl	1.646925098	130.8	5,258.0	5,258.0	0	671.1	9.17	0.3634		9.53	15.7
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-Elec	T7 Public-Oth	0	102.7	4,686.2	0	4,686.2	526.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Public Class 8-NG	T7 Public-NG	1.675620097	16.4	663.5	663.5	0	84.3	0.9983	0.0978		1.10	1.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Dsl	T7 SWCV-Dsl	1.427382459	22.1	1,437.3	1,437.3	0	101.8	5.23	0.0729		5.30	7.6
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-Elec	T7 SWCV-Oth	0	83.5	5,397.7	0	5,397.7	384.1				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 SWCV Class 8-NG	T7 SWCV-NG	1.645238076	78.8	5,105.5	5,105.5	0	362.5	6.94	0.5149		7.45	12.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Dsl	T7 Single-Dsl	2.241644454	5.40	342.1	342.1	0	50.9	0.5405	0.0216		0.5621	1.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-Elec	T7 Single Concrete/Transit Mix-Oth	0	7.41	492.8	0	492.8	69.8				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Concrete/Transit Mix Class 8-NG	T7 Single-NG	2.101045151	0.1971	12.5	12.5	0	1.86	0.0145	0.0018		0.0163	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Dsl	T7 Single-Dsl	1.866392244	53.3	2,654.6	2,654.6	0	502.3	4.27	0.2230		4.50	8.4
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-Elec	T7 Single Dump-Oth	0	45.8	2,774.0	0	2,774.0	431.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Dump Class 8-NG	T7 Single-NG	1.750635827	1.93	96.2	96.2	0	18.2	0.1139	0.0177		0.1316	0.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Dsl	T7 Single-Dsl	1.949484279	374.8	19,604.3	19,604.3	0	3,530.9	31.4	1.55		32.9	64.2
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-Elec	T7 Single Other-Oth	0	345.5	21,715.7	0	21,715.7	3,254.9				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Single Other Class 8-NG	T7 Single-NG	1.841033317	13.5	709.5	709.5	0	127.3	0.8353	0.1236		0.9590	1.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Dsl	T7 Tractor-Dsl	1.168728082	1,875.6	119,095.4	119,095.4	0	27,252.2	165.0	13.6		178.6	208.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-Elec	T7 Tractor-Oth	0	361.8	24,973.8	0	24,973.8	5,256.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Tractor Class 8-NG	T7 Tractor-NG	1.097070671	29.4	1,863.1	1,863.1	0	426.7	2.07	0.4847		2.56	2.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Dsl	T7 Utility-Dsl	1.75288722	6.55	269.1	269.1	0	83.8	0.4518	0.0095		0.4614	0.8
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7 Utility Class 8-Elec	T7 Utility-Oth	0	5.15	237.1	0	237.1	66.0				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Elec	T7IS - Gas	0	0.1686	26.1	0	26.1	3.37				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	T7IS-Gas	T7IS - Gas	2.073756144	0.1681	21.4	21.4	0	3.36	0.0408		0.0001	0.0409	0.1
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Dsl	UBUS - Dsl	0.90399137	0.5557	40.1	40.1	0	2.22	0.0290			0.0290	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Elec	UBUS - Oth	1	116.6	11,570.4	0	11,570.4	466.3				0	0.0
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-Gas	UBUS - Gas	0.904170337	5.42	343.0	343.0	0	21.7	0.3146		0.0006	0.3152	0.3
1	Sub-Areas	55	Tulare (SJV)	2049	Annual	Tulare (SJV)-2049-Annual	UBUS-NG	UBUS - NG	0.90399137	2.24	161.6	161.6	0	8.95	0.1337			0.1337	0.1

Appendix G

Tribal Consultation

Tulare County Association of Governments

210 North Church St. Suite B.
Visalia, California 93291
Phone (559) 623-0450
Fax (559) 733-6720
www.tularecog.org

5/8/2025

Kern Valley Indian Community
Brandy Kendricks, Tribal Member Monitor
30741 Foxridge Court
Tehachapi, California 93561
Via Email: krazykendricks@hotmail.com

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Ms. Kendricks:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Kern Valley Indian Community is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

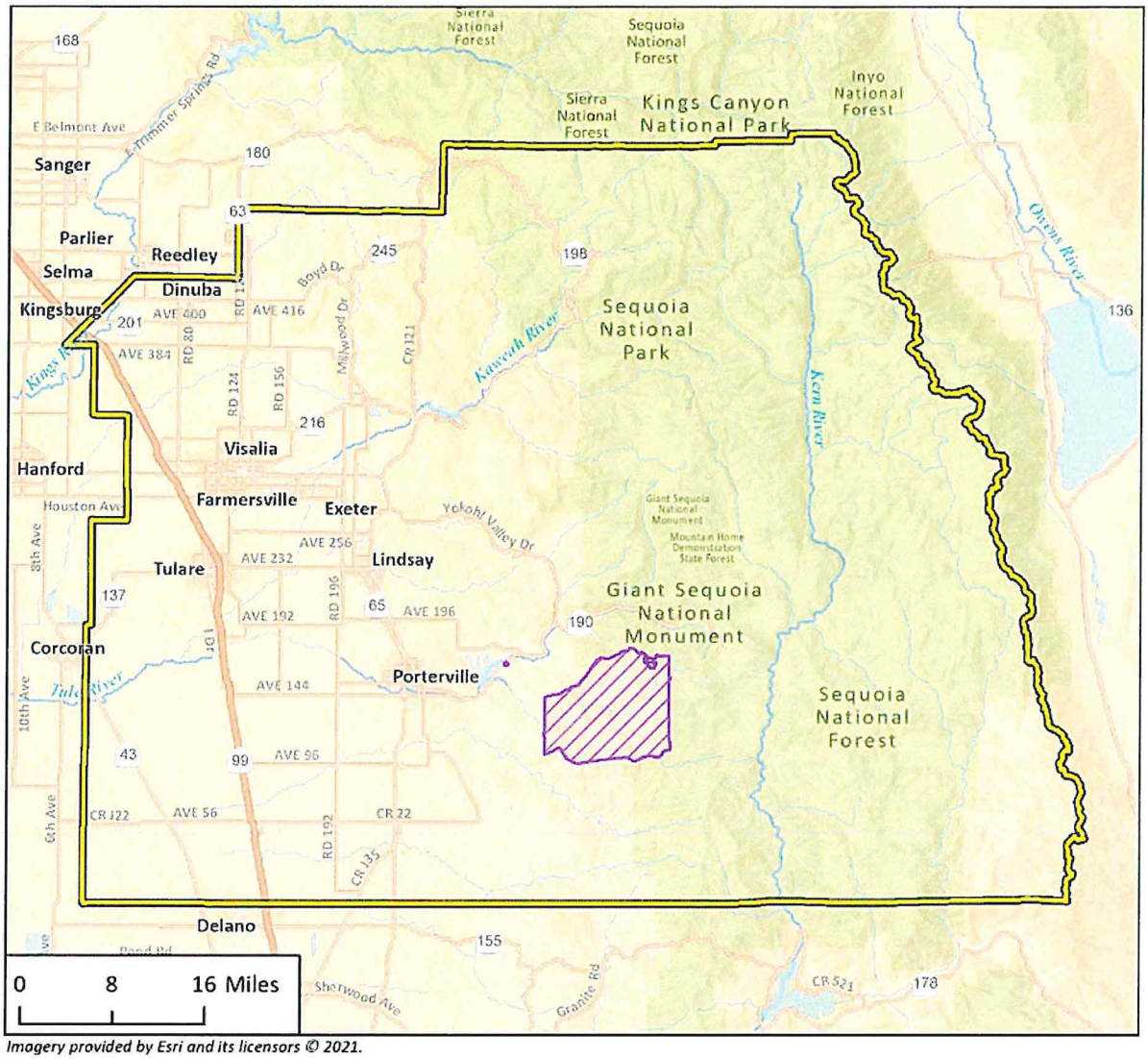
Sincerely,

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
210 North Church Street, Suite B
Visalia, California 93291
(559) 623-0450
singoldsby@tularecag.ca.gov

Attachments

Attachment 1 Project Location Map

Attachment 1 Project Location Map

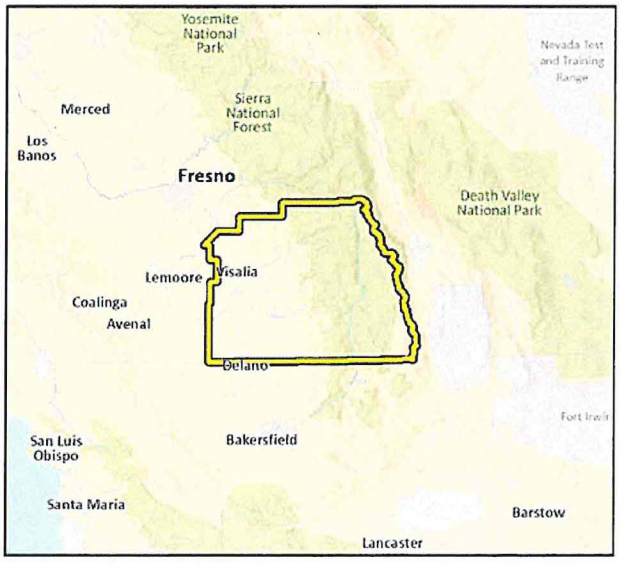


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Tulare County

Tule River Reservation

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Tulare County Association of Governments

210 North Church St. Suite B.
Visalia, California 93291
Phone (559) 623-0450
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www.tularecog.org

5/8/2025

Kern Valley Indian Community
Robert Robinson, Chairperson
P.O. Box 1010
Lake Isabella, California 93240
Via Email: bbutterbredt@gmail.com

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Chairperson Robinson:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Kern Valley Indian Community is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

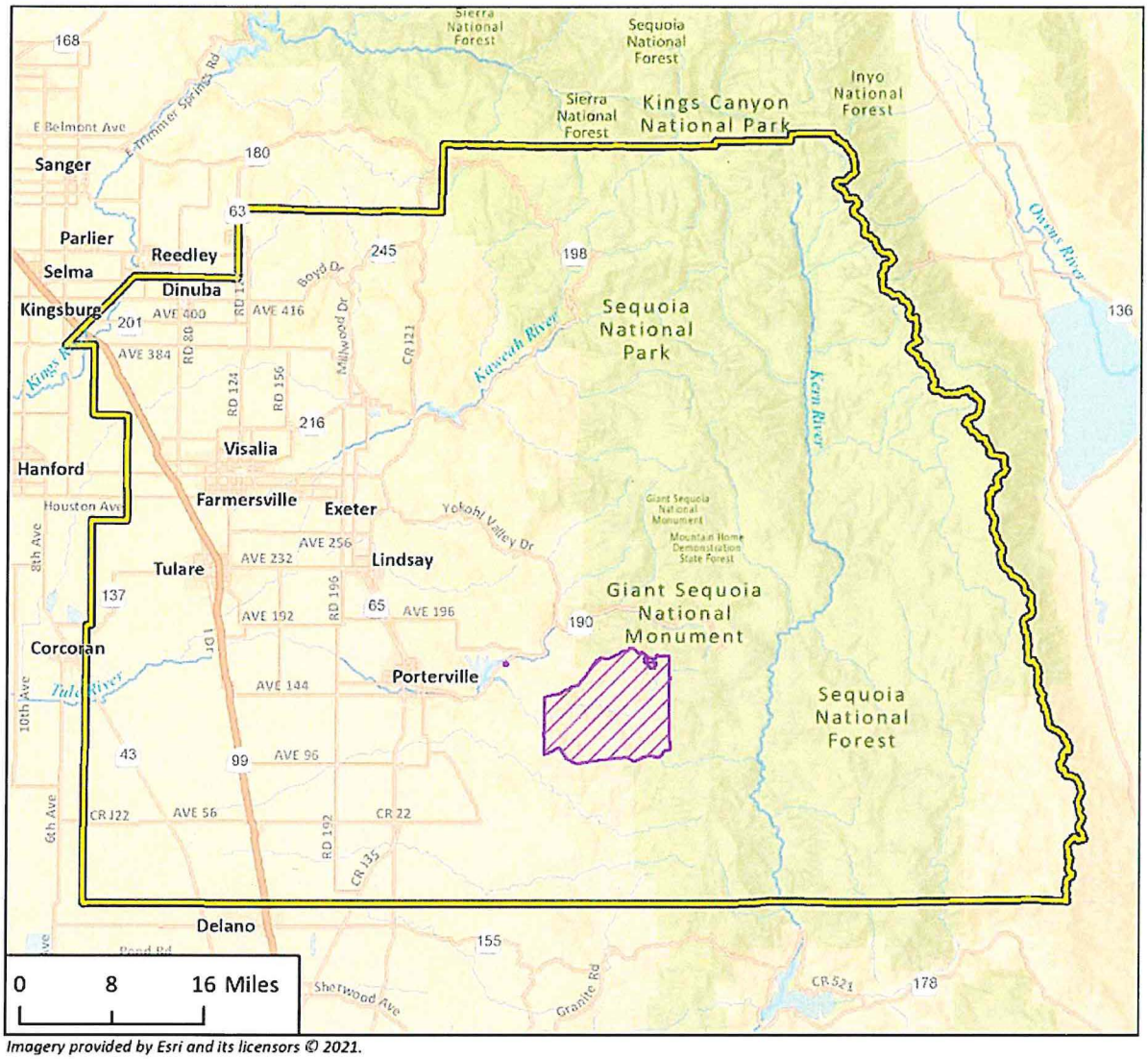
Sincerely,

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
210 North Church Street, Suite B
Visalia, California 93291
(559) 623-0450
singoldsby@tularecag.ca.gov

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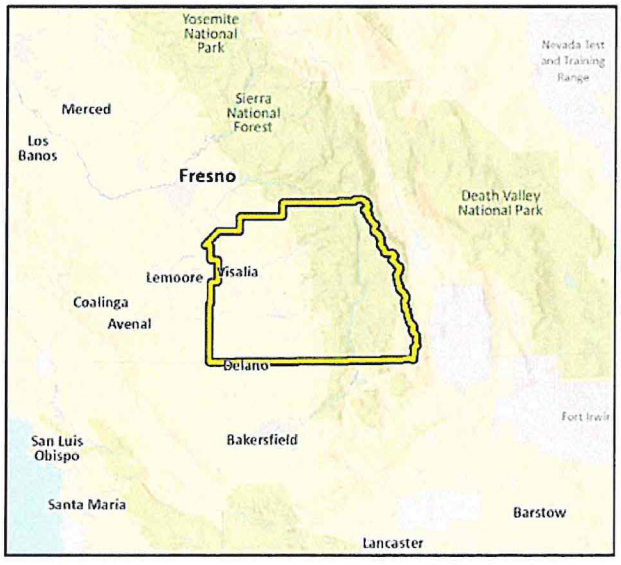


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Tulare County

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Tulare County Association of Governments

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Fax (559) 733-6720
www.tularecog.org

5/8/2025

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street
Bakersfield, California 93305
Via Email: 2deedominguez@gmail.com

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Chairperson Dominguez:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Kitanemuk & Yowlumne Tejon Indians is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

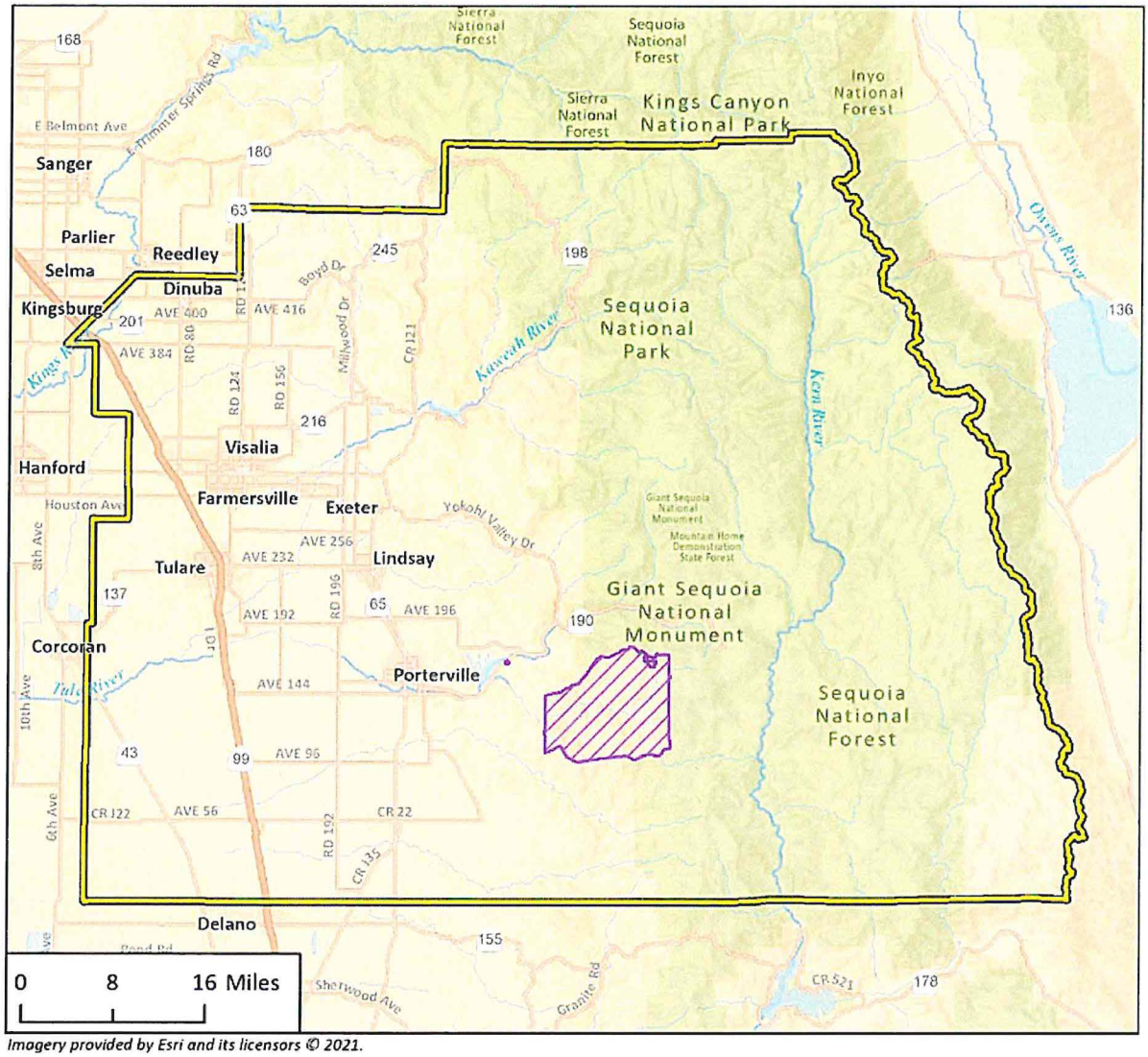
Sincerely,

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
210 North Church Street, Suite B
Visalia, California 93291
(559) 623-0450
singoldsby@tularecag.ca.gov

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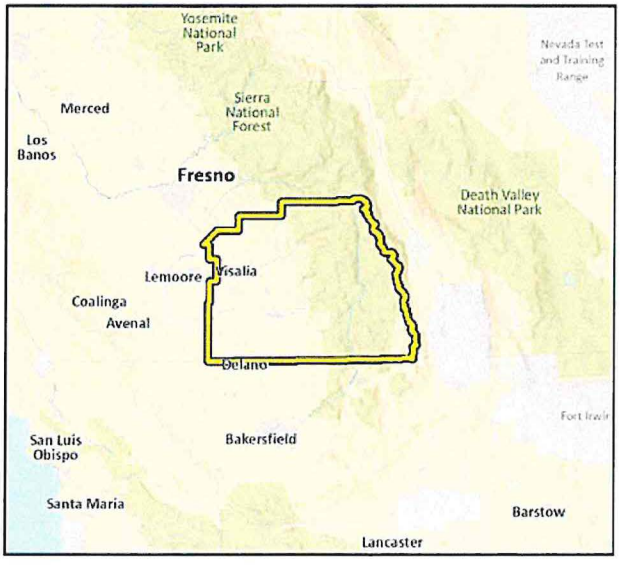


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Tulare County Association of Governments

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Visalia, California 93291
Phone (559) 623-0450
Fax (559) 733-6720
www.tularecog.org

5/8/2025

Table Mountain Rancheria
Michelle Heredia-Cordova, Chairperson
P.O. Box 410
Friant, California 93626
Via Email: mhcordova@tmr.org

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Chairperson Heredia-Cordova:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Table Mountain Rancheria is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

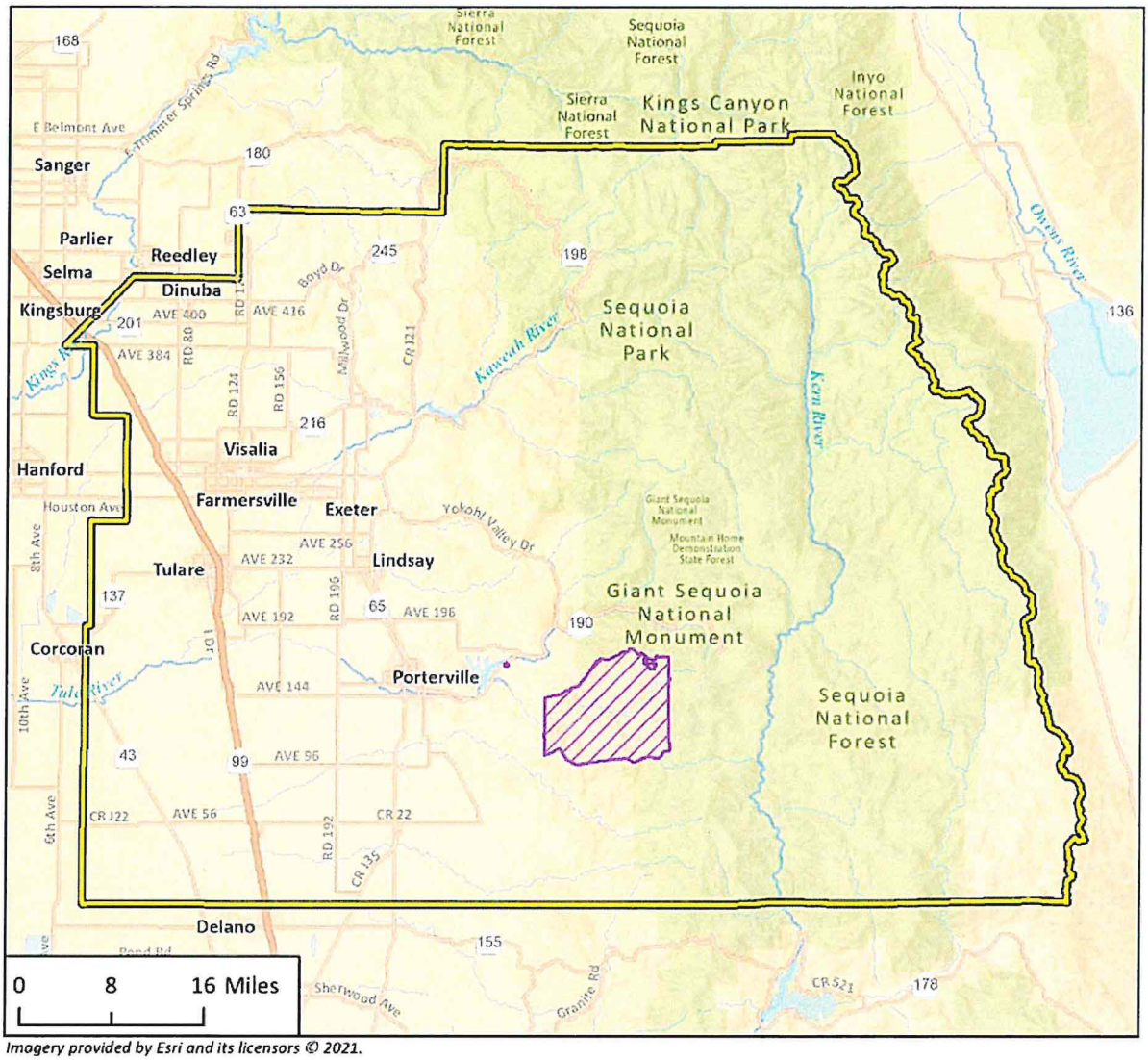
Sincerely,

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
210 North Church Street, Suite B
Visalia, California 93291
(559) 623-0450
singoldsby@tularecag.ca.gov

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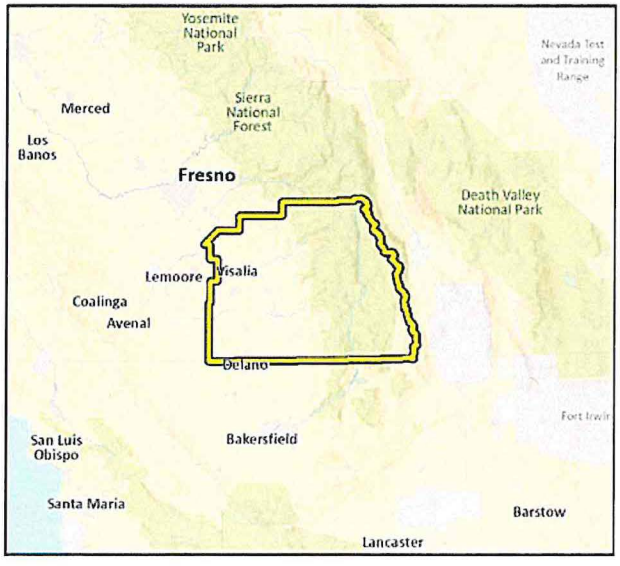


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TABLE MOUNTAIN RANCHERIA
TRIBAL GOVERNMENT OFFICE

May 27, 2025

TCAG/LAFCO
210 N. Church St, Ste B
Visalia, CA 93291

JUN 02 2025

MAIL RECEIVED

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
210 North Church Street, Suite B
Visalia, California 93291

Michelle Heredia-Cordova
Tribal Chairperson

Richard L. Jones
Tribal Vice-Chairperson

Jenna Gosselaar
Tribal Secretary/Treasurer

Samantha Toles-Rodriguez
Tribal Council Member-At-Large

Mark Martinez
Tribal Council Member-At-Large

RE: 2026 Tulare County Regional Transportation Plan/ Sustainable Communities Strategy Project proposing to support the region's growth, enhance mobility, and reduce congestion in Tulare County, California

To: Steven Ingoldsby,

This is in response to your letter dated May 8, 2025, regarding 2026 Tulare County Regional Transportation Plan/ Sustainable Communities Strategy Project proposing to support the region's growth, enhance mobility, and reduce congestion in Tulare County, California
\
We appreciate receiving notice; however, this project site is beyond our area of interest.

Sincerely,

Robert Pennell
Cultural Resources Director

23736
Sky Harbour Road
Post Office
Box 410
Friant
California
93626
(559) 822-2587
Fax
(559) 822-2693

Tulare County Association of Governments

210 North Church St. Suite B.
Visalia, California 93291
Phone (559) 623-0450
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www.tularecog.org

5/8/2025

Traditional Choinumni Tribe
David Alvarez, Chairperson
2415 E. Houston Avenue
Fresno, California 93720
Via Email: davealvarez@sbcglobal.net

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Chairperson Alvarez:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Traditional Choinumni Tribe is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

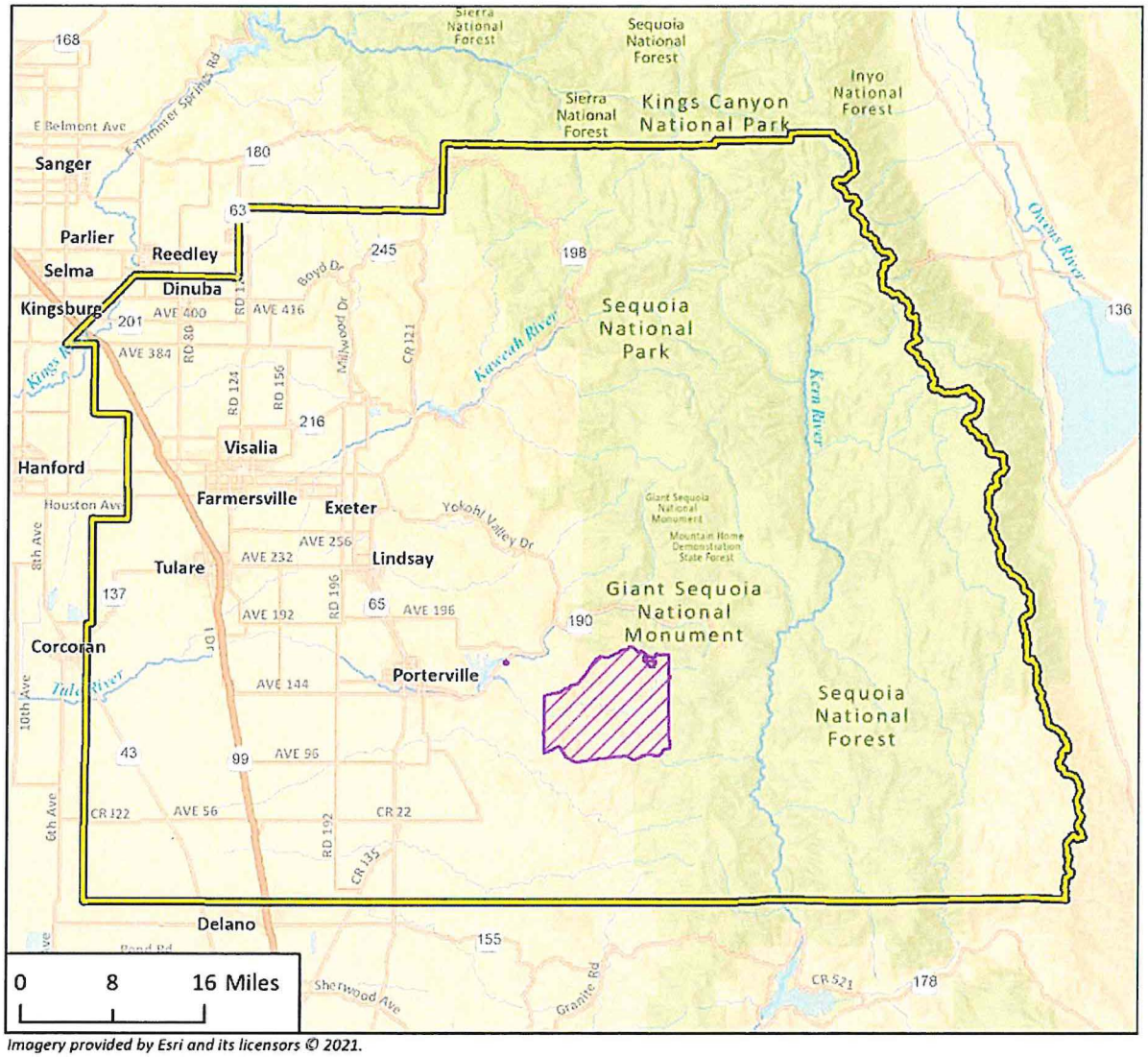
Sincerely,

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
210 North Church Street, Suite B
Visalia, California 93291
(559) 623-0450
singoldsby@tularecag.ca.gov

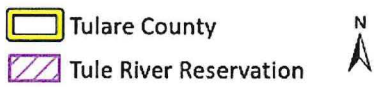
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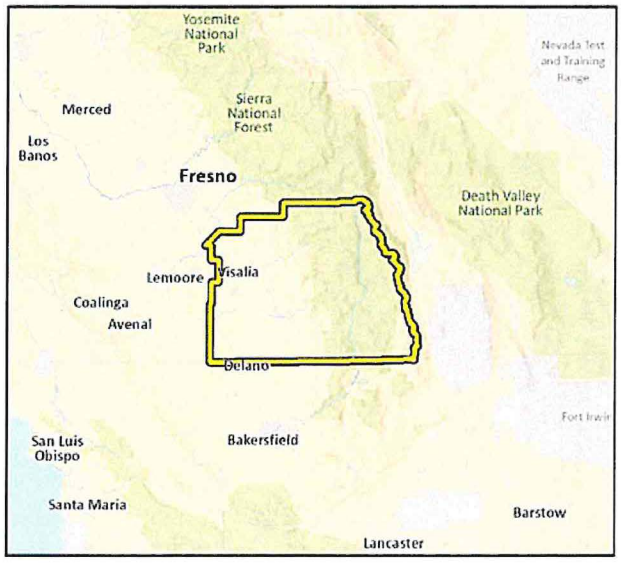
Attachment 1 Project Location Map

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Dinuba *Exeter* *Farmersville* *Lindsay* *Porterville* *Tulare* *Visalia* *Woodlake* *County of Tulare*

From:	David Alvarez
To:	Steven L Ingoldsby
Subject:	RE: 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California
Date:	Thursday, May 15, 2025 11:57:25 AM

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Steven Ingoldsby,

RE: 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

This project is out of our historical land base.
There fore we are unable to comment on this project.
If you have any further questions regarding this matter, please don't hesitate to contact me.

(Please update my email address in your contacts)

Regards,

David Alvarez, Tribal Chairman
Traditional Choinumni Tribe
2415 E. Houston Ave.
Fresno, CA. 93720
c: 559.217.0396
dave@davealvarez.com

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210 North Church St. Suite B.
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5/8/2025

Tubatulabals of Kern Valley
Tina Guerrero, Vice Chair and Tribal Enrollment
P.O. Box 833
Weldon, California 93283
Via Email: tguerrero@tubatulabal.org

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Ms. Guerrero:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Tubatulabals of Kern Valley is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

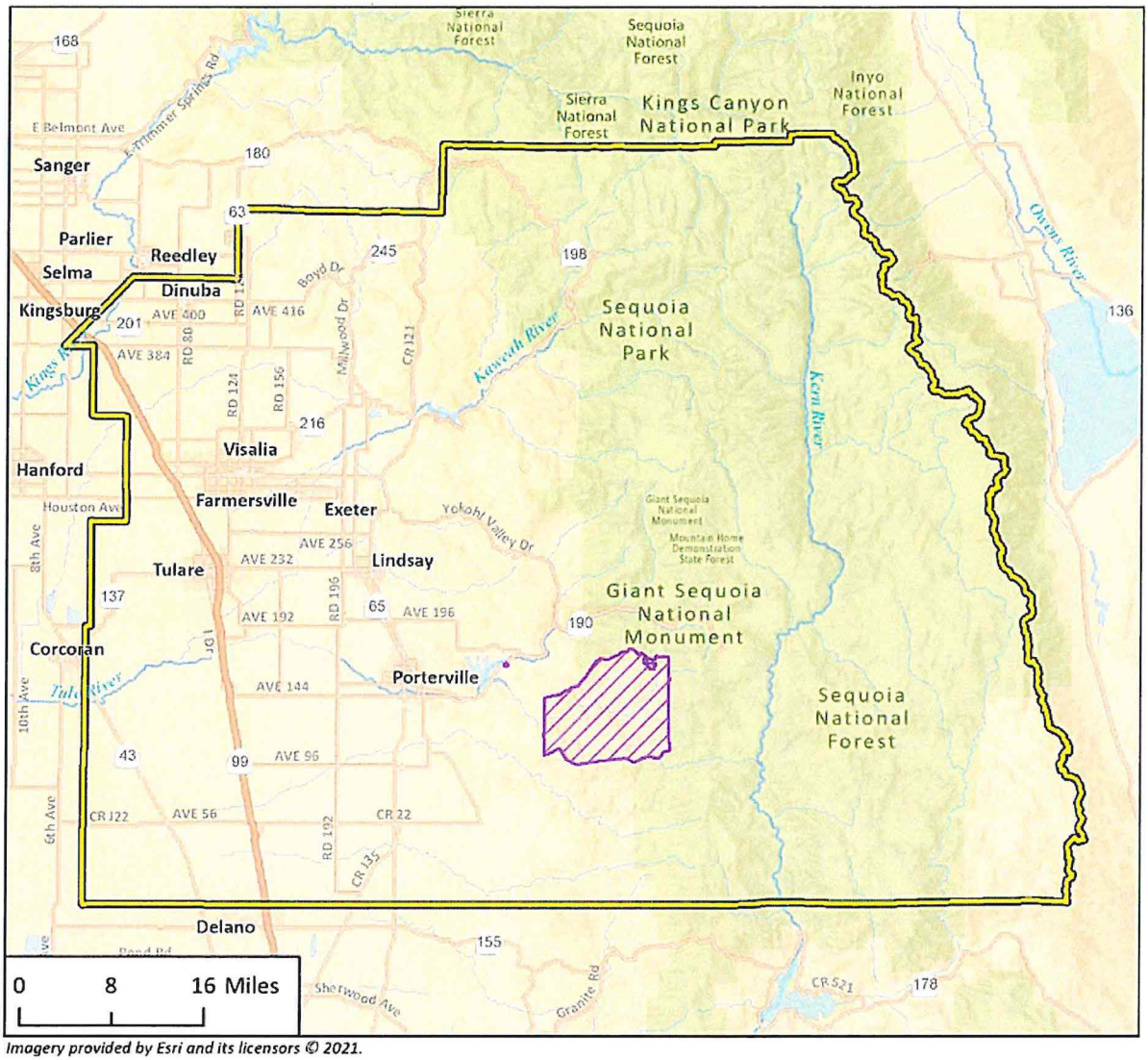
Sincerely,

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
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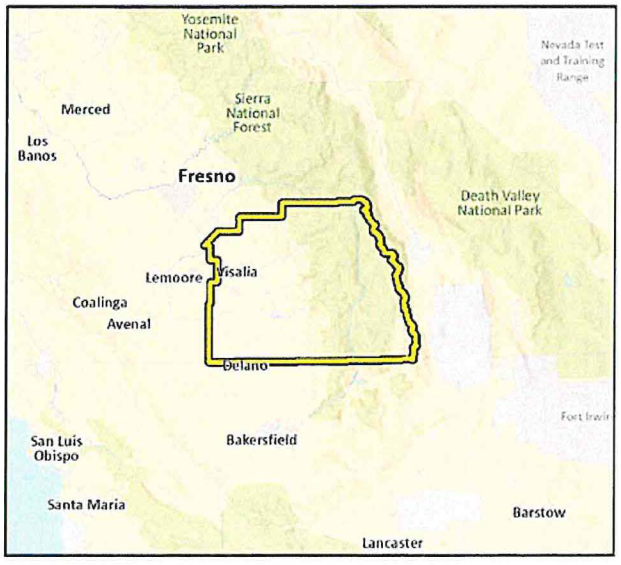


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Tulare County

Tule River Reservation

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Dinuba *Exeter* *Farmersville* *Lindsay* *Porterville* *Tulare* *Visalia* *Woodlake* *County of Tulare*

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5/8/2025

Tubatulabals of Kern Valley
Robert Gomez, Chairperson
P.O. Box 833
Weldon, California 93283
Via Email: rgomez@tubatulabal.org

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Chairperson Gomez:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

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The input of the Tubatulabals of Kern Valley is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

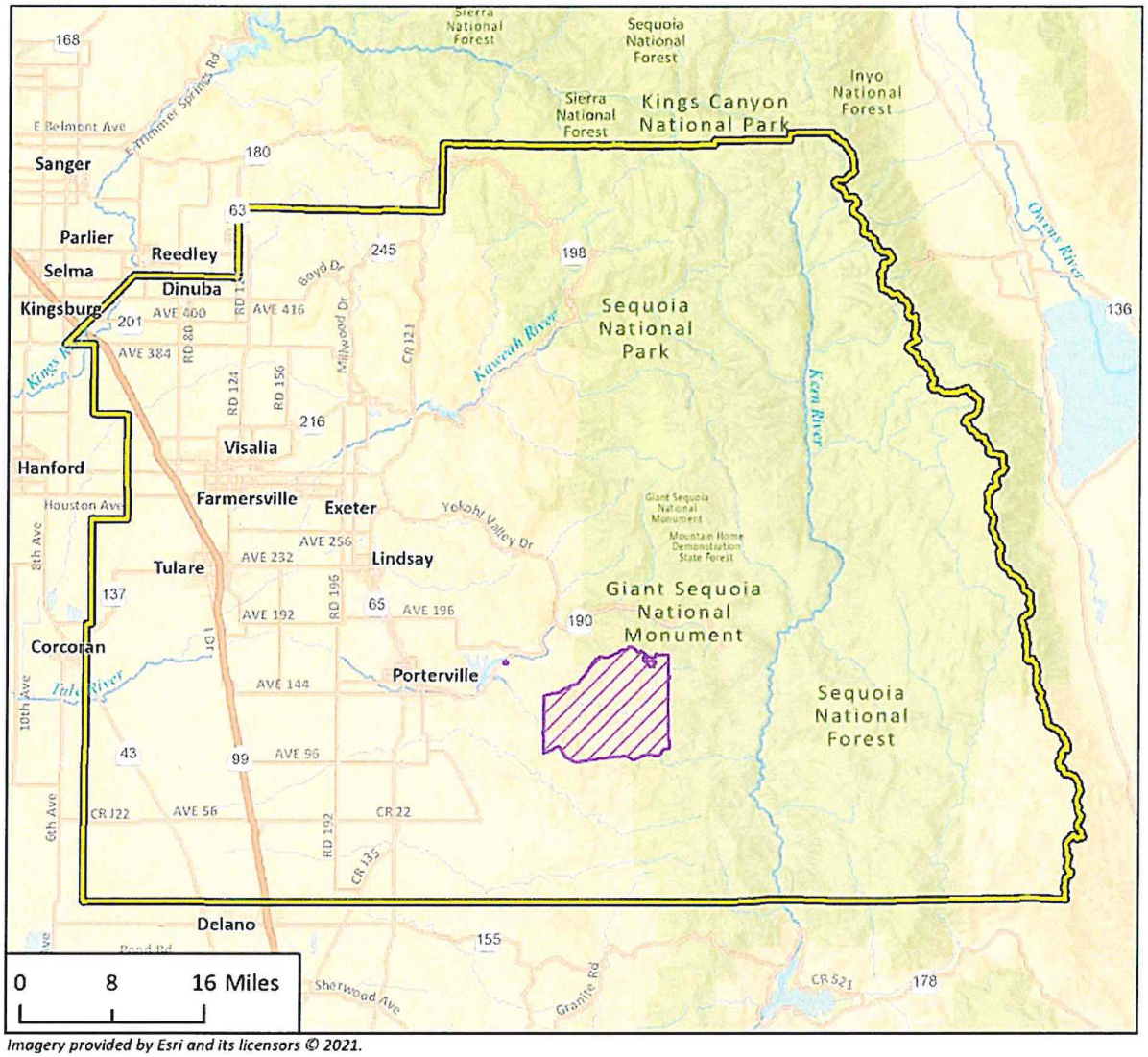
Sincerely,

Steven Ingoldsby
Senior Regional Planner
Tulare County Association of Governments
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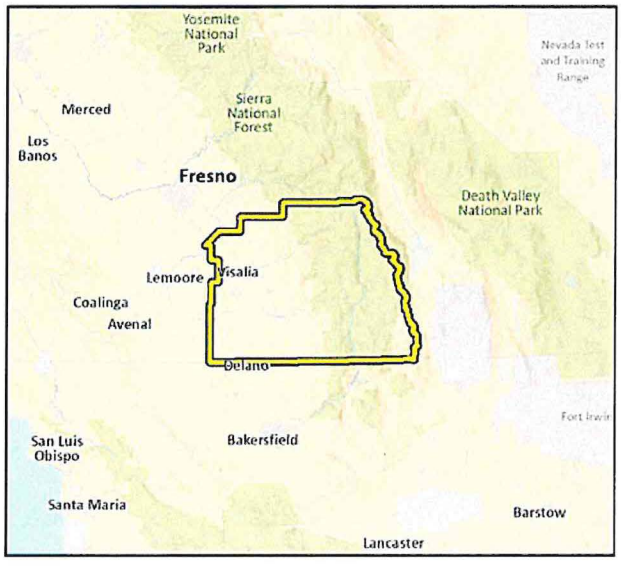


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5/8/2025

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville, California 93258
Via Email: neil.peyron@tulerivertribe-nsn.gov

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Chairperson Peyron:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

The proposed project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Tule River Indian Tribe is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

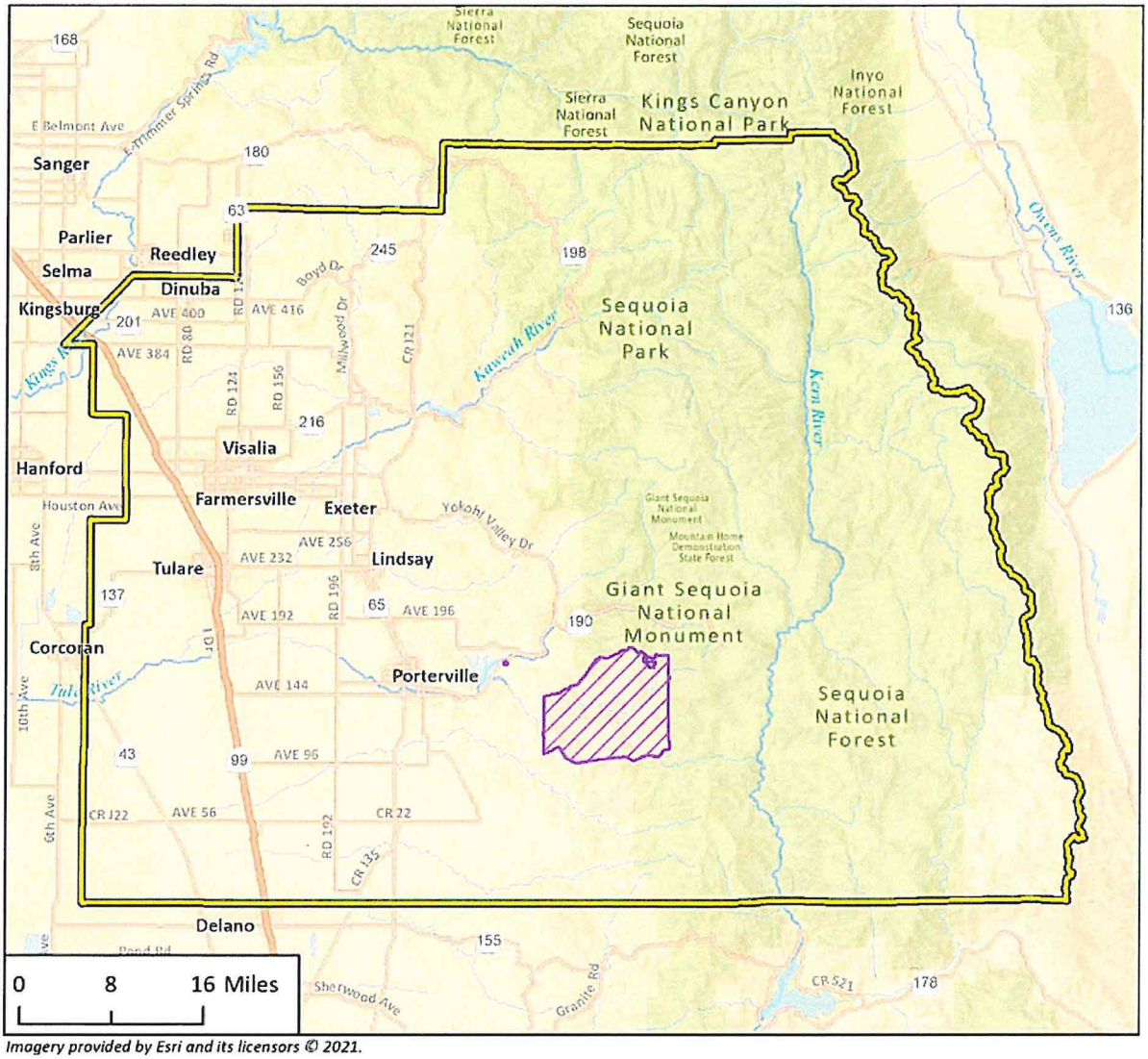
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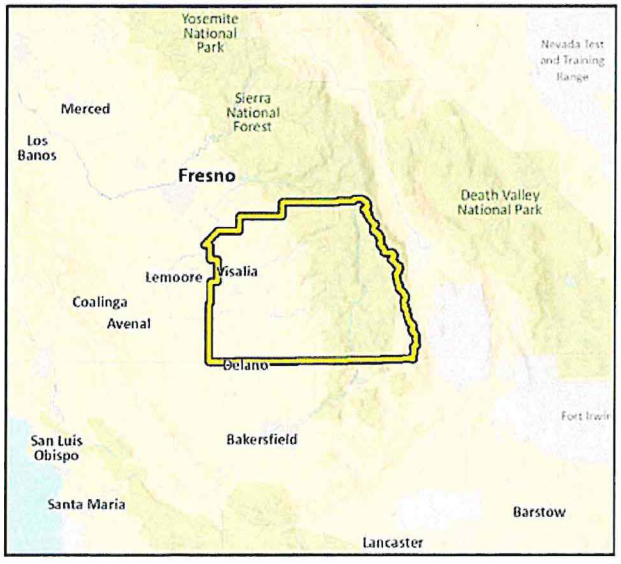


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Phone (559) 623-0450
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www.tularecog.org

5/8/2025

Wuksachi Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas, CA, 93906
Via Email: kwood8934@aol.com

Subject: AB 52 Consultation Invitation, 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project, Tulare County, California

Dear Chairperson Woodrow:

The Tulare County Association of Governments (TCAG) is preparing a Program Environmental Impact Report (PEIR) for the 2026 Tulare County Regional Transportation Plan/Sustainable Communities Strategy Project (project). The project aims to identify the transportation infrastructure and policies needed to support the region's growth, enhance mobility, and reduce congestion. The Sustainable Communities Strategy component integrates land use with transportation planning, encouraging compact development, and promoting alternative transportation modes, with the goal of demonstrating how greenhouse gas reduction targets will be met through integrated planning.

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The input of the Wuksachi Indian Tribe/Eshom Valley Band is important to the TCAG's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (559) 623-0450 or singoldsby@tularecag.ca.gov. Thank you for your assistance.

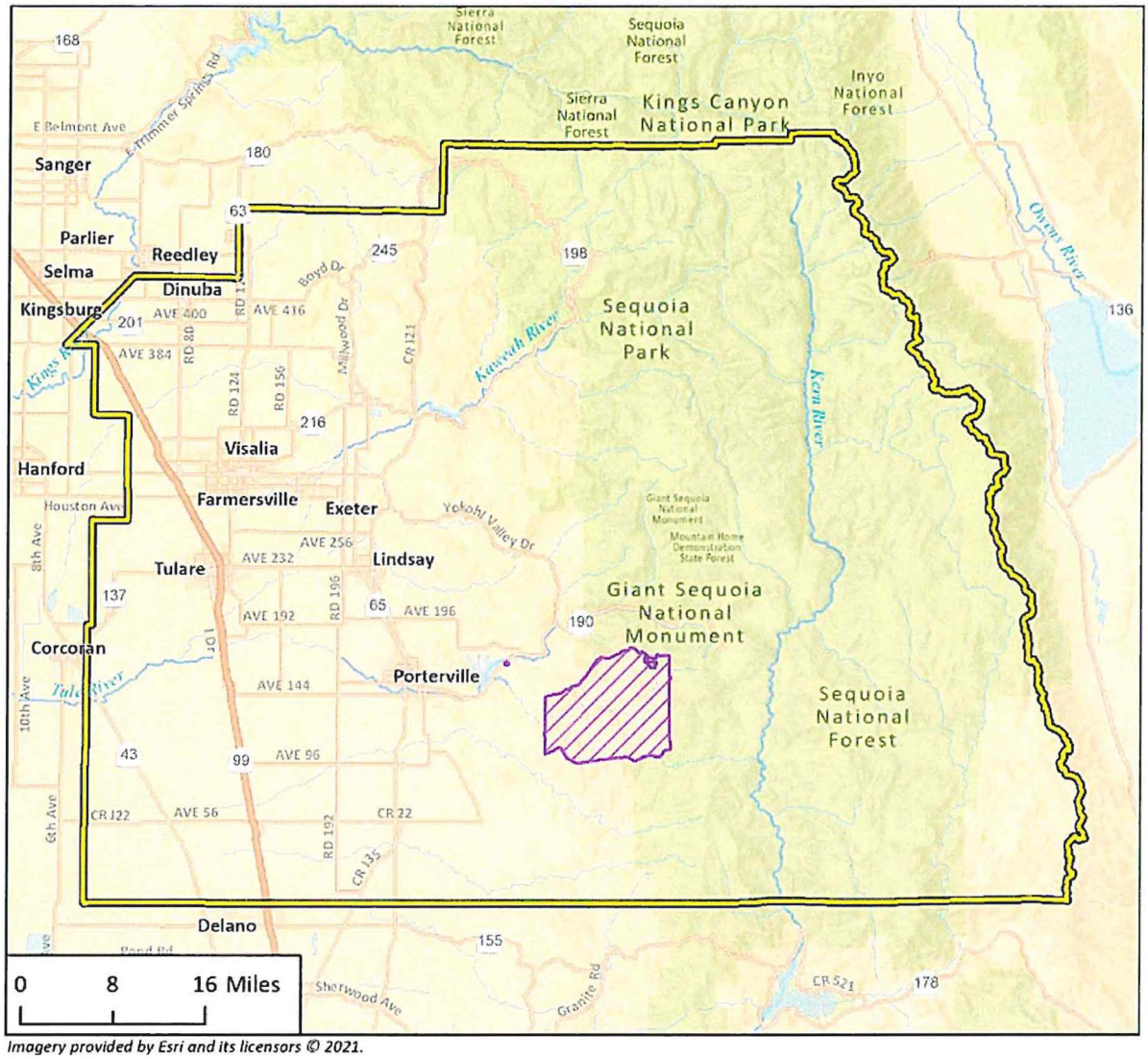
Sincerely,

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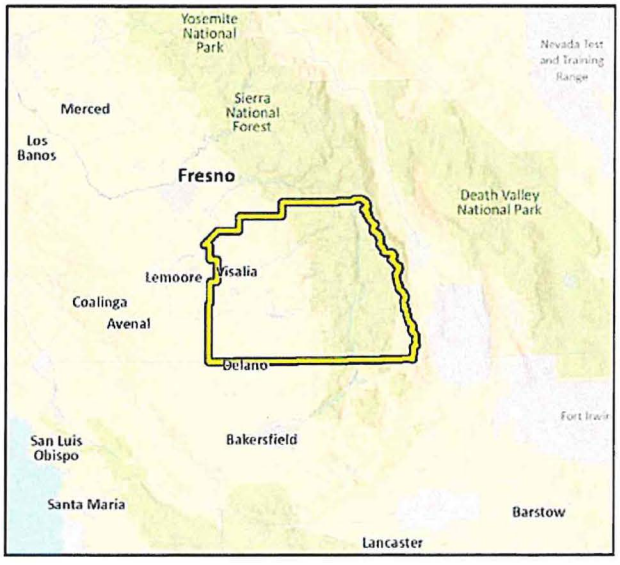


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Appendix H

Alternatives Calculations Data

	Factor or Variable	TCAG					
		2014 RTP/SCS - EMFAC2011	2014 RTP/SCS - EMFAC2014	2018 RTP Blueprint	2022 RTP Blueprint Target Setting	022 RTP CVC Blueprint Plus ARB Adju	2026 RTP
SCENARIO YEARS							
	Base Year	2005	2005	2005	2005	2005	2005
	RTP Interim Year 1	2020	2020	2020	2020	2020	2020
	RTP Interim Year 2	2035	2035	2035	2035	2035	2035
	RTP/EIR Horizon Year	2040	2040	2040	2040	2040	2049
1a. DEMOGRAPHIC DATA							
Values as Given by MPO Staff	**Household Population**						
	Base Year (2005)	404,148	404,148	404,148	404,148	404,148	404,148
	RTP Interim Year (2020)	520,542	520,542	488,293	488,293	480,788	480,788
	RTP Interim Year (2035)	664,878	664,878	568,186	568,186	535,463	521,065
	RTP/EIR Horizon Year (2049)	721,391	721,391	604,969	604,969	567,383	540,925
3a. MODEL OUTPUT DATA--CO2 and Vehicle Miles Traveled							
Values as Given by MPO Staff	**CO2 Emissions per Weekday--LDA, LDT1, LDT2, and MDV (Tons)**						
	Base Year (2005)	3,440	3,440	3,404	3,405	3,440	3,440
	RTP Interim Year (2020)	3,665	3,584	3,586	3,604	3,534	3,534
	RTP Interim Year (2035)	4,548	4,400	3,992	4,048	3,840	4,221
	RTP/EIR Horizon Year (2049)	4,850	4,695	4,219	4,282	4,030	4,362
	CO2 Emissions per Weekday-- All Vehicles and Purposes (Tons)						
	Base Year (2005)	4,643	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	5,597	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	6,892	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	7,346	NA	NA	NA	NA	NA
	Vehicle Miles Traveled per Weekday-- LDA, LDT1, LDT2 and MDV (Miles, in Thousands)						
	Base Year (2005)	7,209	7,209	7,209	7,281	7,279	7,279
	RTP Interim Year (2020)	7,703	7,886	7,987	8,029	7,892	7,892
	RTP Interim Year (2035)	9,479	9,949	9,230	9,356	8,892	9,600
	RTP/EIR Horizon Year (2049)	10,094	10,629	9,755	9,900	9,340	9,936
	Total Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
	Base Year (2005)	7,532	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	9,157	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	11,255	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	11,985	NA	NA	NA	NA	NA
	Total External (IX, XI, XX) Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
	Base Year (2005)						
	RTP Interim Year (2020)						
	RTP Interim Year (2035)						
	RTP/EIR Horizon Year (2049)						
Computed or Adjusted Values, based on MPO Data	**CO2 Emissions per Year--LDA, LDT1, LDT2, and MDV (Tons, in Thousands)**			365			
	Base Year (2005)	1,256	1,256	1,242	1,243	1,256	1,256
	RTP Interim Year (2020)	1,338	1,308	1,309	1,315	1,290	1,290
	RTP Interim Year (2035)	1,660	1,606	1,457	1,477	1,402	1,541
	RTP/EIR Horizon Year (2049)	1,770	1,714	1,540	1,563	1,471	1,592
	CO2 Emissions per Year-- All Vehicles and Purposes (Tons, in Thousands)						
	Base Year (2005)	1,695	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	2,043	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	2,516	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	2,681	NA	NA	NA	NA	NA
	CO2 Emissions Per Capita Per Weekday--LDA, LDT1, LDT2, and MDV (Pounds)						
	Base Year (2005)	17.0	17.0	16.8	16.8	17.0	17.0
	RTP Interim Year (2020)	14.1	13.8	14.7	14.8	14.7	14.7
	RTP Interim Year (2035)	13.7	13.2	14.1	14.2	14.3	16.2
	RTP/EIR Horizon Year (2049)	13.4	13.0	13.9	14.2	14.2	16.1
	CO2 Emissions Per Capita Per Weekday--All Vehicles and Purposes (Pounds)						
	Base Year (2005)	23.0	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	21.5	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	20.7	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	20.4	NA	NA	NA	NA	NA
	CO2 Emissions Per VMT--LDA, LDT1, LDT2 + MDV (Pounds Per Mile)						
	Base Year (2005)	0.95	0.95	0.94	0.94	0.95	0.95
	RTP Interim Year (2020)	0.95	0.91	0.90	0.90	0.90	0.90
	RTP Interim Year (2035)	0.96	0.88	0.86	0.87	0.86	0.88
	RTP/EIR Horizon Year (2049)	0.96	0.88	0.86	0.86	0.86	0.88
	CO2 Emissions Per VMT--All Vehicles and Purposes (Pounds Per Mile)						
	Base Year (2005)	1.23	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	1.22	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	1.22	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	1.23	NA	NA	NA	NA	NA
	LDA, LDT1, LDT2, and MDV VMT per Capita per Weekday (Miles)						
	Base Year (2005)	17.8	17.8	17.8	18.0	18.0	18.0
	RTP Interim Year (2020)	14.8	15.1	16.4	16.4	16.4	16.4
	RTP Interim Year (2035)	14.3	15.0	16.2	16.5	16.6	18.4
	RTP/EIR Horizon Year (2049)	14.0	14.7	16.1	16.4	16.5	18.4
	Total VMT Per Capita per Weekday (Miles)						
	Base Year (2005)	18.6	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	17.6	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	16.9	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	16.6	NA	NA	NA	NA	NA

	Factor or Variable	TCAG					
		2014 RTP/SCS - EMFAC2011	2014 RTP/SCS - EMFAC2014	2018 RTP Blueprint	2022 RTP Blueprint Target Setting	022 RTP CVC Blueprint Plus ARB Adju	2026 RTP
SCENARIO YEARS							
	Base Year	2005	2005	2005	2005	2005	2005
	RTP Interim Year 1	2020	2020	2020	2020	2020	2020
	RTP Interim Year 2	2035	2035	2035	2035	2035	2035
	RTP/EIR Horizon Year	2040	2040	2040	2040	2040	2049
1a. DEMOGRAPHIC DATA							
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	RTP/EIR Horizon Year (2049)	4,850	4,695	4,219	4,282	4,030	4,010
	CO2 Emissions per Weekday-- All Vehicles and Purposes (Tons)						
	Base Year (2005)	4,643	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	5,597	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	6,892	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	7,346	NA	NA	NA	NA	NA
	Vehicle Miles Traveled per Weekday-- LDA, LDT1, LDT2 and MDV (Miles, in Thousands)						
	Base Year (2005)	7,209	7,209	7,209	7,281	7,279	7,279
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	RTP Interim Year (2035)	9,479	9,949	9,230	9,356	8,892	
	RTP/EIR Horizon Year (2049)	10,094	10,629	9,755	9,900	9,340	9,079
	Total Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
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	RTP Interim Year (2035)	11,255	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	11,985	NA	NA	NA	NA	NA
	Total External (IX, XI, XX) Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
	Base Year (2005)						
	RTP Interim Year (2020)						
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	CO2 Emissions per Year-- All Vehicles and Purposes (Tons, in Thousands)						
	Base Year (2005)	1,695	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	2,043	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	2,516	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	2,681	NA	NA	NA	NA	NA
	CO2 Emissions Per Capita Per Weekday--LDA, LDT1, LDT2, and MDV (Pounds)						
	Base Year (2005)	17.0	17.0	16.8	16.8	17.0	17.0
	RTP Interim Year (2020)	14.1	13.8	14.7	14.8	14.7	14.7
	RTP Interim Year (2035)	13.7	13.2	14.1	14.2	14.3	#VALUE!
	RTP/EIR Horizon Year (2049)	13.4	13.0	13.9	14.2	14.2	14.8
	CO2 Emissions Per Capita Per Weekday--All Vehicles and Purposes (Pounds)						
	Base Year (2005)	23.0	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	21.5	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	20.7	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	20.4	NA	NA	NA	NA	NA
	CO2 Emissions Per VMT--LDA, LDT1, LDT2 + MDV (Pounds Per Mile)						
	Base Year (2005)	0.95	0.95	0.94	0.94	0.95	0.95
	RTP Interim Year (2020)	0.95	0.91	0.90	0.90	0.90	0.90
	RTP Interim Year (2035)	0.96	0.88	0.86	0.87	0.86	
	RTP/EIR Horizon Year (2049)	0.96	0.88	0.86	0.86	0.86	0.88
	CO2 Emissions Per VMT--All Vehicles and Purposes (Pounds Per Mile)						
	Base Year (2005)	1.23	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	1.22	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	1.22	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	1.23	NA	NA	NA	NA	NA
	LDA, LDT1, LDT2, and MDV VMT per Capita per Weekday (Miles)						
	Base Year (2005)	17.8	17.8	17.8	18.0	18.0	18.0
	RTP Interim Year (2020)	14.8	15.1	16.4	16.4	16.4	16.4
	RTP Interim Year (2035)	14.3	15.0	16.2	16.5	16.6	#VALUE!
	RTP/EIR Horizon Year (2049)	14.0	14.7	16.1	16.4	16.5	16.8
	Total VMT Per Capita per Weekday (Miles)						
	Base Year (2005)	18.6	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	17.6	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	16.9	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	16.6	NA	NA	NA	NA	NA

	Factor or Variable	TCAG					
		2014 RTP/SCS - EMFAC2011	2014 RTP/SCS - EMFAC2014	2018 RTP Blueprint	2022 RTP Blueprint Target Setting	022 RTP CVC Blueprint Plus ARB Adju	2026 RTP
SCENARIO YEARS							
	Base Year	2005	2005	2005	2005	2005	2005
	RTP Interim Year 1	2020	2020	2020	2020	2020	2020
	RTP Interim Year 2	2035	2035	2035	2035	2035	2035
	RTP/EIR Horizon Year	2040	2040	2040	2040	2040	2049
1a. DEMOGRAPHIC DATA							
Values as Given by MPO Staff	**Household Population**						
	Base Year (2005)	404,148	404,148	404,148	404,148	404,148	404,148
	RTP Interim Year (2020)	520,542	520,542	488,293	488,293	480,788	480,788
	RTP Interim Year (2035)	664,878	664,878	568,186	568,186	535,463	521,065
	RTP/EIR Horizon Year (2049)	721,391	721,391	604,969	604,969	567,383	540,925
3a. MODEL OUTPUT DATA--CO2 and Vehicle Miles Traveled							
Values as Given by MPO Staff	**CO2 Emissions per Weekday--LDA, LDT1, LDT2, and MDV (Tons)**						
	Base Year (2005)	3,440	3,440	3,404	3,405	3,440	3,440
	RTP Interim Year (2020)	3,665	3,584	3,586	3,604	3,534	3,534
	RTP Interim Year (2035)	4,548	4,400	3,992	4,048	3,840	
	RTP/EIR Horizon Year (2049)	4,850	4,695	4,219	4,282	4,030	4,031
	CO2 Emissions per Weekday-- All Vehicles and Purposes (Tons)						
	Base Year (2005)	4,643	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	5,597	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	6,892	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	7,346	NA	NA	NA	NA	NA
	Vehicle Miles Traveled per Weekday-- LDA, LDT1, LDT2 and MDV (Miles, in Thousands)						
	Base Year (2005)	7,209	7,209	7,209	7,281	7,279	7,279
	RTP Interim Year (2020)	7,703	7,886	7,987	8,029	7,892	7,892
	RTP Interim Year (2035)	9,479	9,949	9,230	9,356	8,892	
	RTP/EIR Horizon Year (2049)	10,094	10,629	9,755	9,900	9,340	9,134
	Total Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
	Base Year (2005)	7,532	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	9,157	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	11,255	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	11,985	NA	NA	NA	NA	NA
	Total External (IX, XI, XX) Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
	Base Year (2005)						
	RTP Interim Year (2020)						
	RTP Interim Year (2035)						
	RTP/EIR Horizon Year (2049)						
Computed or Adjusted Values, based on MPO Data	**CO2 Emissions per Year--LDA, LDT1, LDT2, and MDV (Tons, in Thousands)**			365			
	Base Year (2005)	1,256	1,256	1,242	1,243	1,256	1,256
	RTP Interim Year (2020)	1,338	1,308	1,309	1,315	1,290	1,290
	RTP Interim Year (2035)	1,660	1,606	1,457	1,477	1,402	
	RTP/EIR Horizon Year (2049)	1,770	1,714	1,540	1,563	1,471	1,471
	CO2 Emissions per Year-- All Vehicles and Purposes (Tons, in Thousands)						
	Base Year (2005)	1,695	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	2,043	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	2,516	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	2,681	NA	NA	NA	NA	NA
	CO2 Emissions Per Capita Per Weekday--LDA, LDT1, LDT2, and MDV (Pounds)						
	Base Year (2005)	17.0	17.0	16.8	16.8	17.0	17.0
	RTP Interim Year (2020)	14.1	13.8	14.7	14.8	14.7	14.7
	RTP Interim Year (2035)	13.7	13.2	14.1	14.2	14.3	#VALUE!
	RTP/EIR Horizon Year (2049)	13.4	13.0	13.9	14.2	14.2	14.9
	CO2 Emissions Per Capita Per Weekday--All Vehicles and Purposes (Pounds)						
	Base Year (2005)	23.0	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	21.5	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	20.7	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	20.4	NA	NA	NA	NA	NA
	CO2 Emissions Per VMT--LDA, LDT1, LDT2 + MDV (Pounds Per Mile)						
	Base Year (2005)	0.95	0.95	0.94	0.94	0.95	0.95
	RTP Interim Year (2020)	0.95	0.91	0.90	0.90	0.90	0.90
	RTP Interim Year (2035)	0.96	0.88	0.86	0.87	0.86	
	RTP/EIR Horizon Year (2049)	0.96	0.88	0.86	0.86	0.86	0.88
	CO2 Emissions Per VMT--All Vehicles and Purposes (Pounds Per Mile)						
	Base Year (2005)	1.23	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	1.22	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	1.22	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	1.23	NA	NA	NA	NA	NA
	LDA, LDT1, LDT2, and MDV VMT per Capita per Weekday (Miles)						
	Base Year (2005)	17.8	17.8	17.8	18.0	18.0	18.0
	RTP Interim Year (2020)	14.8	15.1	16.4	16.4	16.4	16.4
	RTP Interim Year (2035)	14.3	15.0	16.2	16.5	16.6	#VALUE!
	RTP/EIR Horizon Year (2049)	14.0	14.7	16.1	16.4	16.5	16.9
	Total VMT Per Capita per Weekday (Miles)						
	Base Year (2005)	18.6	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	17.6	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	16.9	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	16.6	NA	NA	NA	NA	NA

	Factor or Variable	TCAG					
		2014 RTP/SCS - EMFAC2011	2014 RTP/SCS - EMFAC2014	2018 RTP Blueprint	2022 RTP Blueprint Target Setting	022 RTP CVC Blueprint Plus ARB Adju	2026 RTP
SCENARIO YEARS							
	Base Year	2005	2005	2005	2005	2005	2005
	RTP Interim Year 1	2020	2020	2020	2020	2020	2020
	RTP Interim Year 2	2035	2035	2035	2035	2035	2035
	RTP/EIR Horizon Year	2040	2040	2040	2040	2040	2049
1a. DEMOGRAPHIC DATA							
Values as Given by MPO Staff	**Household Population**						
	Base Year (2005)	404,148	404,148	404,148	404,148	404,148	404,148
	RTP Interim Year (2020)	520,542	520,542	488,293	488,293	480,788	480,788
	RTP Interim Year (2035)	664,878	664,878	568,186	568,186	535,463	521,065
	RTP/EIR Horizon Year (2049)	721,391	721,391	604,969	604,969	567,383	540,925
3a. MODEL OUTPUT DATA--CO2 and Vehicle Miles Traveled							
Values as Given by MPO Staff	**CO2 Emissions per Weekday--LDA, LDT1, LDT2, and MDV (Tons)**						
	Base Year (2005)	3,440	3,440	3,404	3,405	3,440	3,440
	RTP Interim Year (2020)	3,665	3,584	3,586	3,604	3,534	3,534
	RTP Interim Year (2035)	4,548	4,400	3,992	4,048	3,840	
	RTP/EIR Horizon Year (2049)	4,850	4,695	4,219	4,282	4,030	4,006
	CO2 Emissions per Weekday-- All Vehicles and Purposes (Tons)						
	Base Year (2005)	4,643	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	5,597	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	6,892	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	7,346	NA	NA	NA	NA	NA
	Vehicle Miles Traveled per Weekday-- LDA, LDT1, LDT2 and MDV (Miles, in Thousands)						
	Base Year (2005)	7,209	7,209	7,209	7,281	7,279	7,279
	RTP Interim Year (2020)	7,703	7,886	7,987	8,029	7,892	7,892
	RTP Interim Year (2035)	9,479	9,949	9,230	9,356	8,892	
	RTP/EIR Horizon Year (2049)	10,094	10,629	9,755	9,900	9,340	9,071
	Total Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
	Base Year (2005)	7,532	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	9,157	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	11,255	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	11,985	NA	NA	NA	NA	NA
	Total External (IX, XI, XX) Vehicle Miles Traveled per Weekday--All Vehicles and Purposes (Miles, in Thousands)						
	Base Year (2005)						
	RTP Interim Year (2020)						
	RTP Interim Year (2035)						
	RTP/EIR Horizon Year (2049)						
Computed or Adjusted Values, based on MPO Data	**CO2 Emissions per Year--LDA, LDT1, LDT2, and MDV (Tons, in Thousands)**			365			
	Base Year (2005)	1,256	1,256	1,242	1,243	1,256	1,256
	RTP Interim Year (2020)	1,338	1,308	1,309	1,315	1,290	1,290
	RTP Interim Year (2035)	1,660	1,606	1,457	1,477	1,402	
	RTP/EIR Horizon Year (2049)	1,770	1,714	1,540	1,563	1,471	1,462
	CO2 Emissions per Year-- All Vehicles and Purposes (Tons, in Thousands)						
	Base Year (2005)	1,695	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	2,043	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	2,516	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	2,681	NA	NA	NA	NA	NA
	CO2 Emissions Per Capita Per Weekday--LDA, LDT1, LDT2, and MDV (Pounds)						
	Base Year (2005)	17.0	17.0	16.8	16.8	17.0	17.0
	RTP Interim Year (2020)	14.1	13.8	14.7	14.8	14.7	14.7
	RTP Interim Year (2035)	13.7	13.2	14.1	14.2	14.3	#VALUE!
	RTP/EIR Horizon Year (2049)	13.4	13.0	13.9	14.2	14.2	14.8
	CO2 Emissions Per Capita Per Weekday--All Vehicles and Purposes (Pounds)						
	Base Year (2005)	23.0	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	21.5	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	20.7	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	20.4	NA	NA	NA	NA	NA
	CO2 Emissions Per VMT--LDA, LDT1, LDT2 + MDV (Pounds Per Mile)						
	Base Year (2005)	0.95	0.95	0.94	0.94	0.95	0.95
	RTP Interim Year (2020)	0.95	0.91	0.90	0.90	0.90	0.90
	RTP Interim Year (2035)	0.96	0.88	0.86	0.87	0.86	
	RTP/EIR Horizon Year (2049)	0.96	0.88	0.86	0.86	0.86	0.88
	CO2 Emissions Per VMT--All Vehicles and Purposes (Pounds Per Mile)						
	Base Year (2005)	1.23	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	1.22	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	1.22	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	1.23	NA	NA	NA	NA	NA
	LDA, LDT1, LDT2, and MDV VMT per Capita per Weekday (Miles)						
	Base Year (2005)	17.8	17.8	17.8	18.0	18.0	18.0
	RTP Interim Year (2020)	14.8	15.1	16.4	16.4	16.4	16.4
	RTP Interim Year (2035)	14.3	15.0	16.2	16.5	16.6	#VALUE!
	RTP/EIR Horizon Year (2049)	14.0	14.7	16.1	16.4	16.5	16.8
	Total VMT Per Capita per Weekday (Miles)						
	Base Year (2005)	18.6	NA	NA	NA	NA	NA
	RTP Interim Year (2020)	17.6	NA	NA	NA	NA	NA
	RTP Interim Year (2035)	16.9	NA	NA	NA	NA	NA
	RTP/EIR Horizon Year (2049)	16.6	NA	NA	NA	NA	NA