TRPA PROJECT IMPACT ASSESSMENT GUIDELINES

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PUBLIC REVIEW DRAFT

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1 Introduction

These guidelines describe the Project Impact Assessment (PIA) requirements for development projects and Regional Plan, Code, or local plan amendments in the Tahoe Basin. Project Impact Assessment is best addressed through a Vehicle Miles Travelled (VMT) analysis that can answer the following questions:

- How much VMT does the proposal generate?
- Does the proposal require further analysis?
- Will the proposal result in a significant VMT impact?
- What mitigation is required?

ACRONYMS	
CEQA	California Environmental Quality Act
IEC	Initial Environmental Checklist
PIA	Project Impact Assessment
RTP	Regional Transportation Plan
VMT	Vehicle Miles Travelled

These guidelines describe the process and requirements for conducting a VMT assessment. While a VMT assessment is one form of a transportation study, it does not address all transportation issues. In some cases, a more detailed transportation study is needed. These guidelines only address the VMT assessment component of a transportation study.

The procedures highlighted in these guidelines reflect 2021 updates to the TRPA Environmental Thresholds, which involved replacement of a VMT-based nitrate deposition threshold with a new transportation and sustainable communities threshold, also based on VMT. This update resulted in updates to Chapter 65: *Air Quality / Transportation* of the TRPA Code of Ordinances to establish PIA requirements. In addition to implementing the TRPA environmental threshold, the PIA requirements in Chapter 65 were designed to align with recent California legislative changes[1] that have occurred relative to transportation impact analysis using VMT.

This document focuses on TRPA VMT analysis and does not cover other transportation impact subjects that may be required to be addressed by TRPA or the local agency (e.g., city or county) with project approval authority as part of a transportation study.

The PIA Guidelines are subject to revision from time to time to address future changes in analysis techniques, policies, guidelines, or statutes.

1.1 PURPOSE

This document provides a basis for a project applicant, transportation analyst, TRPA planning staff, and local jurisdiction planning staff in the Tahoe Basin in preparing a VMT analysis in compliance with Chapter 65 of the TRPA Code of Ordinances. VMT analysis techniques should follow modern best practices for transportation planning and transportation engineering. The guidelines are based upon and are consistent with:

- The *Project Impact Assessment and Air Quality Mitigation Fee Framework* (April 28, 2021)
- TRPA Code of Ordinances Section 65.2, *Traffic and Air Quality Mitigation Program*

[1] California Senate Bill 743 (2013)

As mentioned, these guidelines are focused specifically on VMT analysis. The procedures and parameters for other forms of transportation impact analysis are addressed by TRPA on a case-by-case basis.

WHAT IS A VMT ANALYSIS?

A VMT analysis is an assessment of project related VMT generation or VMT effect. The assessment addresses four topics:

(1) **How much VMT the project generates.** The VMT analysis will forecast a project's average daily VMT generation. This information is used in subsequent steps. For some projects[2], VMT effect will also be considered.

(2) **Whether the project merits further analysis.** A VMT analysis first addresses the relationship between VMT generation and the screening criteria[3]. Four classes of projects are considered to result in less-than-significant impacts on VMT. For these projects, no further analysis is needed. The Code of Ordinances designates these projects as *screened from further analysis*.

(3) **Whether a project's impacts are environmentally significant.** Any project that is screened is automatically considered to have a less-than-significant impact. For projects that are not screened, the assessment also considers the relationship of VMT generation or effect to the standard of significance[4]. Projects that exceed the standard of significance result in a potentially significant transportation impact that must be mitigated. TRPA has developed the PIA Tool as a way of completing this assessment for some projects[5].

(4) **Whether mitigation measures are required.** Finally, a VMT assessment will identify appropriate mitigation for projects over the standard of significance. After mitigation is applied, all projects must achieve the applicable standard of significance to comply with TRPA Code requirements[6].

The VMT analysis required for PIA provides information that is essential for decisionmakers and the public when evaluating project proposals. To approve any project, TRPA requires a finding that the project will not cause the environmental thresholds to be exceeded and that the project is consistent with the Regional Plan. Conducting a VMT analysis in accordance with these guidelines can demonstrate compliance with the Code standards, and thereby substantiate the conclusion that a project is not negatively impacting an environmental threshold.

TRPA seeks to achieve and maintain its environmental thresholds through goals and policies in the Regional Plan. The Regional Plan is then implemented through enforceable standards in the Code of Ordinances. Project Impact

[2] VMT effect is considered for retail and service commercial, recreation, transportation, and other projects. Mixed-use developments may also use VMT effect in determining compliance with the standard of significance.

[3] See Section 1.4.

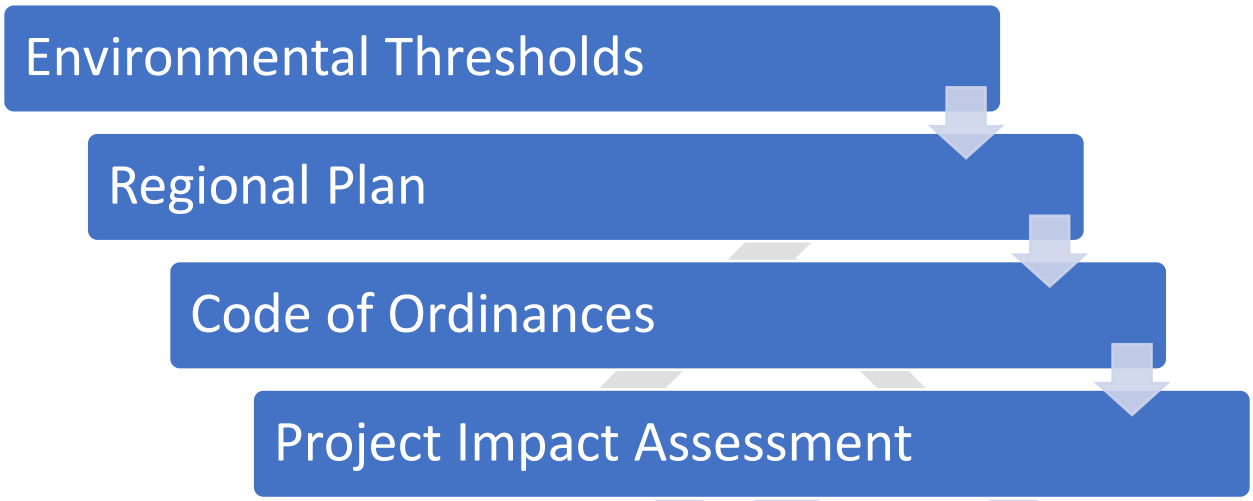
[4] See Section 4.2.

[5] The PIA tool is limited in use to residential, tourist accommodation, and public service projects. See Section 1.5 for more information.

[6] See TRPA Code of Ordinances, Subparagraph 65.2.4.E

Assessment is done to demonstrate a project's compliance with Code of Ordinances standards pertaining to transportation (see Chapter 65).

FIGURE 1: TRPA Policy Implementation Structure



The studies conducted under these guidelines may be used to substantiate project findings. As such, the studies should provide comprehensive, consistent, and accurate analysis of potential transportation impacts to the environment and to facilities and services.

TRPA and/or the lead agency will review the VMT analysis in transportation studies based on the guidance presented here and under an applicable Memorandum of Understanding. Each project, however, is unique, and the guidance in this document is not intended to be so prescriptive as to be impractical. Not all criteria and analyses described will apply to every project. Early and consistent communication with TRPA and local agency staff is encouraged to confirm the type and level of analysis required on a case-by-case basis.

WHAT IS A TRANSPORTATION STUDY?

A VMT analysis is one form of transportation study. Depending on the size and scale of a project, TRPA or the local city or county may require a more comprehensive transportation study that addresses more than just VMT. Some examples of other transportation study elements could include the following:

<u>Analysis that may be required by TRPA</u>

1. **Transportation Impact Analysis.** An assessment of transportation-related impacts in compliance with TRPA Code Chapter 3 and TRPA Compact Article VII. This analysis tends to be focused on one or more of five other topical areas:
    - Parking
    - Impact on highways, transit, bicycle, or pedestrian facilities
    - Changes in circulation patterns
    - Impact on waterborne, rail, or air traffic
    - Hazards and safety

When a transportation study is required, only those areas where the IEC question is answered "Yes" or "No with Mitigation" would need to be addressed.

Analysis that may be required by the local agency (city/county)

2. **Local Transportation Assessment.** A local transportation assessment that demonstrates consistency with local agency General or Master Plan and/or Area Plan goals and policies.

3. **CEQA Impact Analysis.** A California Environmental Quality Act (CEQA) impact analysis that addresses compliance with CEQA Guidelines Section 15064.3 for projects on the California side of the Basin.

Since this document exclusively deals with VMT analysis, it does not address transportation impact analysis that may be needed as part of the TRPA environmental review process. It also does not address local transportation assessments or CEQA requirements, which are determined by the city or county. Applicants and transportation analysts are advised to contact the city or county to determine whether those assessments are needed.

Just as not all projects will require a VMT analysis, not all projects may require these other analyses. TRPA and the local agency should be consulted to determine the need and scope of a transportation study whenever the Initial Environmental Checklist for a project results in a "Yes" or "No with mitigation" answer in the Transportation section.

1.2 BACKGROUND

Land use and transportation planning the Lake Tahoe Basin is regulated under a planning compact entered into by the States of Nevada and California, and ratified through congressional approval. The Tahoe Regional Planning Compact, which was adopted in 1969 and revised in 1980, established the nation's first interstate environmental planning agency, the Tahoe Regional Planning Agency (TRPA).

Article I, Section (b) of the Compact requires that the TRPA:

- Adopt environmental threshold carrying capacities, which are environmental standards necessary to maintain a scenic, recreational, educational, scientific, or natural value of the region or to maintain public health and safety; and
- Adopt and enforce a Regional Plan and implementing ordinances to achieve and maintain such capacities.

ENVIRONMENTAL THRESHOLDS

As prescribed by the Compact, TRPA adopted environmental thresholds in 1982 covering nine resources or topics:

- Air Quality
- Fisheries
- Noise
- Recreation
- Scenic Resources
- Soil Conservation
- Vegetation Preservation

TRPA Timeline

1969	Bi-State Compact adopted
1980	Bi-State Compact revised
1982	Environmental thresholds established
1987	Regional Plan and Code of Ordinances adopted
2012	Regional Plan Update adopted
2021	VMT threshold revised

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- Water Quality
- Wildlife

Among the thresholds established was an air quality standard for VMT. This standard was originally adopted to address nitrate deposition concerns. Over time, nitrate emissions from motor vehicles improved substantially. As a result, nitrate deposition is no longer a significant contributor to lake clarity issues. In recognition of this, in April 2021, the Governing Board removed the nitrate deposition threshold and replaced it with a new mobility-related threshold under a new category heading:

TRANSPORTATION AND SUSTAINABLE COMMUNITIES	
TSC1	Reduce Annual Daily Average VMT Per Capita by 6.8% from 12.48, the 2018 baseline, to 11.63 in 2045.

LAKE TAHOE REGIONAL PLAN

The Bi-State Compact also requires that the agency adopt and enforce a plan and corresponding ordinances to achieve and maintain the thresholds. In 1987, the TRPA Governing Board adopted the *Lake Tahoe Regional Plan*. The Regional Plan constitutes the comprehensive plan for the Lake Tahoe Region. The Regional Plan underwent comprehensive updates in 2012.

GOALS AND POLICIES

The *Lake Tahoe Regional Plan* provides an overall framework for development and conservation in the Lake Tahoe Basin. The goals and policies contained in the Regional Plan are applicable throughout the Lake Tahoe Basin. Development in the Lake Tahoe Basin must be consistent with the Regional Land Use Map (Map 1 of the Regional Plan). Protection of natural and cultural resources is a primary focus.

Development in the Lake Tahoe Basin is guided by the goals and policies of the Regional Plan. These guidelines are developed consistent with the Regional Plan. Transportation studies, if required, must address Regional Plan requirements to demonstrate that projects are consistent with the plan. An inconsistency with the Regional Plan is grounds for rejecting a project or requiring an amendment to the plan. Appendix A contains a selection of relevant transportation goals and policies. A full copy of the Regional Plan Goals and Policies is available here.

A major strategy of the Regional Plan is encouraging environmental redevelopment in designated Centers[7]. Centers are planned for compact development with well-connected bicycle and pedestrian infrastructure. The plan encourages development in these areas through a series of incentives, including the allowances for higher densities, taller buildings, and the potential to transfer in additional coverage. By designating centralized locations for more intensified mixed-use development, TRPA hopes to create land use patterns that promote walking, biking, and transit use.

REGIONAL TRANSPORTATION PLAN

In its role as a Metropolitan Planning Organization, TRPA prepares a Regional Transportation Plan (RTP) every four years. The RTP is the transportation element of the Regional Plan and contains an overall strategy for transit, trails, technology, and sustainable communities. The plan focuses on connecting people with walkable and

[7] The term *Centers* includes the High-Density Tourist District, the Regional Center, and all Town Centers.

bikeable town centers and with popular recreation destinations. In addition to goals and policies, the plan's appendices contains a project list showing transportation improvement projects out to the year 2045.

AREA AND COMMUNITY PLANS

Area and community plans provide comprehensive land use planning with a more detailed focus on a specific geographic area of the Basin. An area or community plan takes the Regional Plan strategies, goals, and policies down to the local level. They serve to supplement, but not supersede, the Regional Plan.

Though area and community plans focus on a specific geography, these plans are policy-level documents. With some exceptions, area and community plans do not include project-level analysis. Nonetheless, the goals, policies, and implementing actions in an area or community plan may play into project development. Further analysis of transportation-related policies and standards may be warranted where indicated on the Initial Environmental Checklist. Any required transportation studies will need to address area or community plan requirements where applicable.

Area plans are the modern form of the local planning document. They are adopted under the 2012 Regional Plan and are subject to standards in Chapter 13 of the Code of Ordinances. There are six adopted area plans, each of which contains a transportation chapter:

- Meyers Area Plan
- Placer County Tahoe Basin Area Plan
    - Implementing Regulations
- South Shore Area Plan
- Tahoe Valley Area Plan
- Tourist Core Area Plan
- Washoe County Tahoe Area Plan

Area plans may include detailed analysis of a specific project as part of the TRPA environmental review process. In cases like this, where a project's impacts on VMT are fully analyzed with the area plan, a project may be screened from further VMT analysis.[8]

In addition to area plans, there are three remaining community plans adopted under the original 1987 Regional Plan. Each of these plans likewise contain a transportation chapter:

- Bijou / Al Tahoe Community Plan
    - Design Standards and Guidelines
- Round Hill Community Plan
    - Design Standards and Guidelines
- South Y Industrial Tract Community Plan
    - Design Standards and Guidelines

[8] See Section 1.4 for the screening criterion for projects fully analyzed in an area plan.

CODE OF ORDINANCES

The Code of Ordinances houses enforceable standards that are meant to implement policies in the Regional Plan. The Code is arranged into nine sections, each of which contains one or more chapters pertaining to a specific subject matter. In preparing a VMT analysis, the following Code chapters should be consulted:

- Chapter 3: *Environmental Documentation*, which establishes provisions regarding environmental documentation.
- Chapter 65: *Air Quality / Transportation*, which establishes standards for the assessment and mitigation of VMT.

TRPA ENVIRONMENTAL REVIEW

Article VII of the Bi-State Compact and Chapter 3 of the Code of Ordinances govern TRPA's environmental review process. Certain classes of projects are exempt from further environmental review. These include:

- Construction of single-family houses and additions and accessory structures.
- Changes in use involving less than 650 additional average daily Vehicle Miles Travelled.
- Transfers or conversions of development rights.

The above categorical exemptions do not apply in cases where a project may have the reasonable possibility of resulting in a significant effect on the environment due to unusual circumstances.

Projects that are not exempt from environmental review must complete an Initial Environmental Checklist (IEC) or an Environmental Assessment (EA) to determine if further analysis through an Environmental Impact Statement (EIS) is needed.

An IEC includes the following transportation-related questions:

TRANSPORTATION-RELATED INITIAL ENVIRONMENTAL CHECKLIST QUESTIONS

(13.a) Will the proposal result in the generation of 650 or more new average daily Vehicle Miles Travelled?

(13.b) Will the proposal result in changes to existing parking facilities or demand for new parking?

(13.c) Will the proposal result in substantial impact upon existing transportation systems, including highway, transit, bicycle, or pedestrian facilities?

(13.d) Will the proposal result in alterations to present patterns of circulation or movement of people and/or goods?

(13.e) Will the proposal result in alterations to waterborne, rail, or air traffic?

(13.f) Will the proposal result in an increase in traffic hazards to motor vehicles, bicycles, or pedestrians?

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This document addresses only how to assess impacts for Question 13.a. Applicants should contact TRPA to discuss transportation impact analysis procedures for any projects that may result in "Yes" or "No with mitigation" responses to the remaining questions.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA is a process that is similar to TRPA's environmental review process. CEQA applies to most discretionary actions undertaken by a public agency in California. These actions may include authorizing development through land use permit approval. An applicant for a project in California should consult the city or county to determine whether CEQA applies to their project.

In addition to being required by TRPA, VMT analysis may also be required under CEQA. California Senate Bill (SB) 743 (2013) required that the Office of Planning and Research (OPR) amend the CEQA Guidelines to establish a new transportation analysis alternative to Level of Service (LOS). OPR recommended the use of Vehicle Miles Travelled (VMT) as "the most appropriate measure for transportation impacts."[9] The CEQA Guidelines were modified in 2018 and put into effect in 2020.

TRPA's standards and procedure for VMT analysis recognize and align with SB 743. This was done to ensure that there would not be two separate and possibly conflicting review procedures for project development in the region. There are, however, some differences in analysis. For example, TRPA considers only in-basin VMT, while CEQA requires a broader analysis using full trip length VMT. For projects in California, the transportation analyst should be aware of the CEQA requirements and how they differ from TRPA's guidelines.

OTHER VMT ANALYSIS GUIDELINES

In addition to TRPA, other agencies have established VMT analysis guidelines. Applicants are advised to review other applicable VMT analysis guidelines and retain a transportation analyst, if needed, to conduct an analysis that addresses all relevant topics and procedures. Applicants and their transportation analysts are also encouraged to consult with the city or county and state department of transportation, if applicable, to get a full understanding of their requirements.

Applicable VMT analysis guidelines include:

- *County of Placer Transportation Study Guidelines* (County of Placer 2020) defines general requirements for transportation studies in Placer County.
- *Transportation Impact Study Guidelines* (County of El Dorado 2014) defines general requirements for transportation studies in El Dorado County.
- *Technical Advisory on Evaluating Transportation Impacts in CEQA* (California Governor's Office of Planning and Research 2018).
- *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* (Caltrans 2020) provides guidance about Caltrans review of VMT analysis for projects on or near the California State Highway System.
- *Updated Interim LD-IGR Safety Review Guidance* (Caltrans 2020) provides guidance about safety analysis for projects on or near the California State Highway System.
- *Transportation Analysis Framework* (TAF)*, First Edition, Evaluating Transportation Impacts of State Highway System Projects* (Caltrans 2020)

[9] CEQA Guidelines Section 15064.3

- *Transportation Analysis Under CEQA* (TAC), *First Edition, Evaluating Transportation Impacts of State Highway System Projects* (Caltrans 2020)

OTHER TRANSPORTATION PLANNING DOCUMENTS

Local agencies may have other applicable transportation planning documents, including

- Capital improvement programs
- Transit plans
- Active transportation, bicycle, and pedestrian plans

1.3 PROJECTS REQUIRING VMT ANALYSIS

TRPA will determine whether a VMT analysis is needed in accordance with these guidelines and Section 65.2 of the TRPA Code of Ordinances. The following types of projects, which involve development in the Lake Tahoe Basin and affect the regional transportation system, may require a VMT analysis:

- Transportation infrastructure modification or expansion, including capital improvement projects on roads and highways.
- Land use entitlements requiring a TRPA permit.
- Adoption or amendment of area plans, community plans, or plan area statements.
- Land use activities advanced by other agencies that is subject to TRPA review under the Bi-State Compact.

If the project falls into one of the above categories, then one of three scenarios could occur:

1. **The project is screened from further VMT analysis.** The project may fall within the screening criteria in Section 1.4 of this document. In that case, no VMT analysis will be required. The applicant will, however, need to calculate VMT generation to confirm that the project meets screening criteria and to calculate the appropriate mobility mitigation fee. TRPA has developed the PIA Tool to help applicants to do this.

2. **The project may be analyzed using the PIA Tool.** In some cases, VMT analysis could be completed entirely by using the PIA Tool. See Section 1.5 of this document for further details. The PIA Tool will generate a report which the applicant can then submit along with the application.

3. **The project may require a detailed analysis.** The applicant would need to work with a qualified transportation analyst to conduct a detailed VMT analysis specific to the project.

DOES THE PROJECT REQUIRE A VMT ANALYSIS?

All projects that are not screened[10] are required to prepare a VMT analysis. This can be achieved in two ways:

- **Using the PIA Tool.** An abbreviated project analysis is available using the Project Impact Assessment (PIA) Tool, as described in Section 1.5. The PIA Tool may only be used for projects comprised of residential, tourist accommodation, or public service uses[11]. The tool is for projects that are generally consistent in

[10] Some projects are considered "screened," meaning they do not need further VMT analysis. See the criteria in Section 1.4 of this document.

[11] Refer to Table 21.4-A in the TRPA Code of Ordinances for definitions of these use categories.

size and land use type (i.e., density, mix of uses, transit accessibility, etc.) with the surrounding built environment.

- **Preparing a detailed VMT analysis.** The applicant can work with a qualified transportation analyst to prepare a more detailed VMT analysis in accordance with these guidelines.

To determine what level of analysis is required, consider the following two questions:

Determining the Required Analysis

(1) Does the project meet the screening criteria (Section 1.4)?

Yes – The project is screened from further VMT analysis. Payment of the mobility mitigation fee will be sufficient mitigation of project impacts.

No – Go to Question #2

(2) Is the project comprised entirely of residential, tourist accommodation, or public service uses?

Yes – The project may have its VMT analysis completed using the PIA Tool, assuming it is similar in land use characteristics to the surrounding built environment. Optionally, the applicant may instead choose to complete a more detailed study.

No – A more detailed study is required. The VMT analysis should include both a VMT analysis and an IEC impact analysis.

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FIGURE 2: Project Impact Analysis Diagram

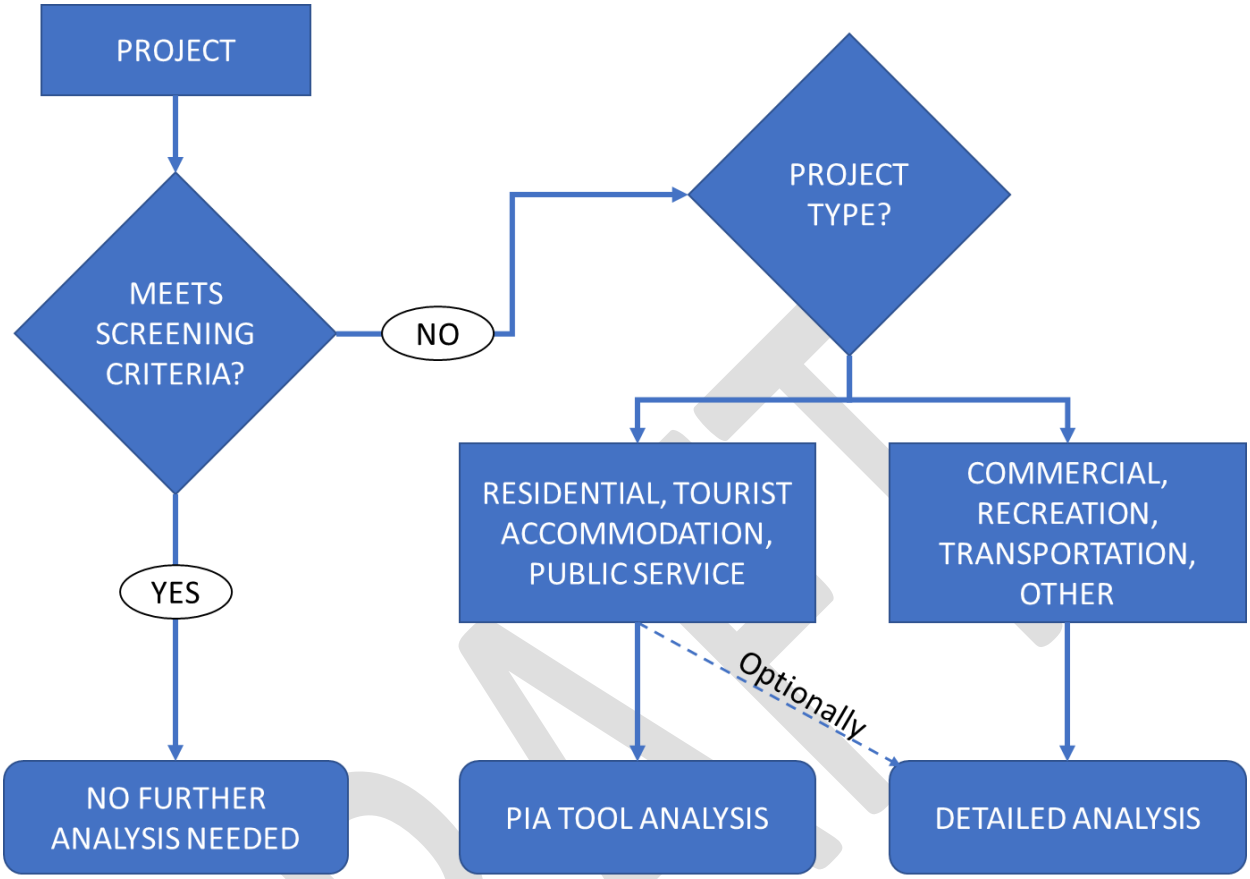

TABLE 1: Project Analysis Characteristics

	Screened from Further Analysis	Analysis Using PIA Tool	Detailed Analysis
Project Type	• Deed-restricted affordable, moderate, and achievable housing • Projects generating Low Average Daily VMT (715 / 1,300) • Specific transportation projects • Projects evaluated in an area plan	Residential, tourist accommodation, and public service that are not otherwise screened.	Commercial, recreation, and transportation that are not otherwise screened; other projects not defined here; all project types, at applicant's discretion
Analysis Required	None	PIA Tool is Sufficient	Detailed VMT Analysis Required
Mobility Mitigation Fee Required	Yes	Yes	Yes

	Screened from Further Analysis	Analysis Using PIA Tool	Detailed Analysis
Additional Mitigation Required	No	Yes, if over Standard of Significance	Yes, if over Standard of Significance

DOES THE PROJECT REQUIRE PAYMENT OF A MOBILITY MITIGATION FEE?

All projects that result in net, unmitigated vehicle miles travelled pay a mobility mitigation fee except for active transportation projects. Active transportation projects include bicycle, pedestrian, and/or transit, and other transportation projects that would not likely lead to a substantial or measurable increase in vehicle travel, such as for safety, adaptive management, etc. Though screened projects are exempt from further VMT analysis, they must still calculate and pay the mobility mitigation fee. See Section 4.4 for more information on project mitigation.

Projects that do not generate vehicle trips or increase trip lengths would not be assessed a mobility mitigation fee.

1.4 PROJECTS EXEMPT FROM FURTHER VMT ANALYSIS (SCREENING)

Some project types, as outlined in TRPA Code Subparagraph 65.2.3.D, are presumed to result in a less-than-significant VMT impact absent any evidence to the contrary. These projects are exempt (or "screened") from further VMT analysis. The amount of average daily VMT generated must still be calculated and the mobility mitigation fee must still be paid. These projects include:

- Deed-restricted affordable, moderate, and achievable housing;
- Low VMT generating projects;
- Certain kinds of transportation projects; and
- Projects fully analyzed in an area plan.

DEED-RESTRICTED HOUSING

Projects in which 100 percent of the units are deed-restricted to affordable, moderate, or achievable income levels and are in an area eligible for Residential Bonus Units[12] are exempt from further VMT analysis.

- **Affordable:** Deed-restricted for persons whose income is no more than 80 percent of the county median income.[13]

- **Moderate:** Deed-restricted for persons whose income is no more than 120 percent of the county median income. [14]

[12] Residential bonus unit-eligible areas include areas within one-half mile of existing transit stops (TRPA Code Subparagraph 52.3.4.F). See Appendix G for maps of these areas.

[13] See definition for "Affordable Housing" in Section 90.2 of the TRPA Code of Ordinances.

[14] See definition for "Moderate Housing" in Section 90.2 of the TRPA Code of Ordinances.

- **Achievable:** Deed-restricted for persons whose income is no more than the county's achievable median income percentage[15].

PROJECTS GENERATING LOW DAILY VMT

Projects that produce below a certain level of average daily VMT are exempted from further analysis. The level of screened VMT generation depends on the project's location:

- **Within Centers and within one-half mile of Center boundaries:** Up to 1,300 average daily VMT is considered low-VMT generating. Centers and half-mile buffer around them are shown in the maps in Appendix F.

- **Other Areas**: Up to 715 average daily VMT is considered low-VMT generating.

This screen is based on net project-generated VMT.

TRANSPORTATION PROJECTS

Transit and active transportation projects, other than mobility hubs, are exempt from further VMT analysis. Active transportation projects include enhancements to the pedestrian and bicycle network. TRPA evaluates mobility hubs for screening on a case-by-case basis.

TRPA also recognizes that certain other transportation projects may not result in a significant increase in VMT, including those projects identified by the California Governor's Office of Planning and Research in *Technical Advisory: On Evaluating Transportation Impacts in CEQA* (December 2018), which are listed here:

- Rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets (e.g., highways; roadways; bridges; culverts; Transportation Management System field elements such as cameras, message signs, detection, or signals; tunnels; transit systems; and assets that serve bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity
- Roadside safety devices or hardware installation such as median barriers and guardrails
- Roadway shoulder enhancements to provide "breakdown space," dedicated space for use only by transit vehicles, to provide bicycle access, or to otherwise improve safety, but which will not be used as automobile vehicle travel lanes
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Conversion of existing general purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes

[15] Determined as specified in the definition for "Achievable Housing" in Section 90.2 of the TRPA Code of Ordinances.

- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g., HOV, HOT, or trucks) from general vehicles
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features
- Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics designed to optimize vehicle, bicycle, or pedestrian flow
- Timing of signals to optimize vehicle, bicycle, or pedestrian flow
- Installation of roundabouts or traffic circles
- Installation or reconfiguration of traffic calming devices
- Adoption of or increase in tolls
- Addition of tolled lanes, where tolls are sufficient to mitigate VMT increase
- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of traffic lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs)
- Addition of traffic wayfinding signage
- Rehabilitation and maintenance projects that do not add motor vehicle capacity
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way
- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- Installation of publicly available alternative fuel/charging infrastructure
- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas that do not increase overall vehicle capacity along the corridor

PROJECTS FULLY ANALYZED IN AN AREA PLAN

Projects that have been fully analyzed in a conforming TRPA area plan are exempt from further analysis. To be considered under this screening criterion, a project must meet all of the following requirements:

- The project must have been specifically described in the project description for the area plan's environmental document (IEC, EA, or EIS).
- The project's impacts must have been fully analyzed in accordance with these guidelines in the area plan's environmental document.
- The project must incorporate the mitigation measures described in the area plan's environmental document.

1.5 PIA TOOL

TRPA has developed the Project Impact Assessment (PIA) Tool, which can assist with the following tasks:

- Project screening – determining whether or not a project is exempt from further VMT analysis
- VMT analysis for residential, tourist accommodation, and public service projects that do not meet any screening criteria
- Identification of appropriate VMT mitigations for projects that exceed VMT standards of significance
- Calculation of mitigation fees

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To use the TRPA project impact assessment tool, the project must be generally consistent in size and land use type (i.e., density, mix of uses, transit accessibility, etc.) with the surrounding built environment. TRPA staff must verify that this is the case to use the tool for analytical purposes. Projects that extend beyond the Basin boundaries are not eligible for analysis using the PIA Tool.

TABLE 2: PIA Tool Functionality

Land Use	PIA Tool Functionality		
	Determine Screening	Calculate Mobility Mitigation Fee	Conduct VMT Analysis
Residential	✓	✓	✓
Tourist Accommodation	✓	✓	✓
Commercial	✓	○	X
Public Service	✓	✓	✓
Recreation	✓	○	X
Transportation	X	X	X
Other	X	X	X

✓ – works for all projects, provided they are similar in land use and intensity to the surrounding area

○ – works for screened projects only

X – not available

The tool also calculates project-generated VMT, which is used for mobility mitigation fee calculations. Project-generated VMT is calculated based on the land use type, size, and location of the proposed project using location-based data from the Tahoe Activity-Based (AB) model.

Finally, the PIA Tool includes the ability to calculate VMT reduction from a suite of VMT mitigation measures including the following:

- Unbundle parking costs from property cost
- Implement voluntary commute trip reduction program
- Implement required commute trip reduction program
- Provide end-of-trip facilities (e.g. showers, bike lockers, etc.)
- Employee or private shuttle
- Provide traffic calming measures

These measures are discussed in further detail in Appendix D.

2 Process Overview

This section provides an overview of the process to develop and review a VMT analysis.

2.1 ROLES AND RESPONSIBILITIES

The VMT analysis will include the following parties:

- **Project Applicant –** The project applicant will be responsible for funding the VMT analysis and selecting the transportation analyst, if needed.

- **Transportation Analyst –** A VMT analysis must be prepared under the supervision of a qualified professional who has specific training and experience in preparing transportation analyses, unless waived by TRPA. Transportation analysts may include licensed traffic engineers, licensed civil engineers, or transportation planners. Other qualified professionals may be considered by TRPA on a case-by-case basis. The transportation analyst must possess the ability to forecast, interpret transportation data, and evaluate transportation needs for the development and roadway system.

- **TRPA Staff –** The TRPA Transportation Planning Division staff will review transportation studies in accordance with these guidelines to ensure compliance with the Regional Plan and RTP.

- **Local Agency Staff** – Local agency (i.e., city or county) planning and/or public works staff will review transportation studies in accordance with local guidelines[16] In cases where the local agency is permitting projects on behalf of TRPA under a delegation Memorandum of Understanding, the local agency will also review for compliance with these guidelines.

- **Other Jurisdictions** – Projects may affect facilities controlled by another jurisdiction, such as Caltrans, NDOT, or another city or county. In these cases, coordination with the affected agency may be required. TRPA staff can provide guidance and contact information for other jurisdictions.

Although transportation analysts and reviewers will sometimes have different perspectives, all parties involved in the process should adhere to established engineering ethics and conduct all analysis and reviews objectively and professionally.

2.2 SUMMARY OF THE PROCESS

As discussed in these guidelines, not all projects will require a detailed VMT analysis. The following summarizes the typical process for completing a VMT analysis for a plan or project in the Lake Tahoe Region. During this process, the project applicant and/or their transportation analyst may request a meeting or conference call with TRPA Transportation Planning staff to clarify study requirements or comments received on the draft study. It is critical that the transportation analyst coordinate with TRPA and local agency staff continuously throughout the planning process to ensure that all applicable requirements are met.

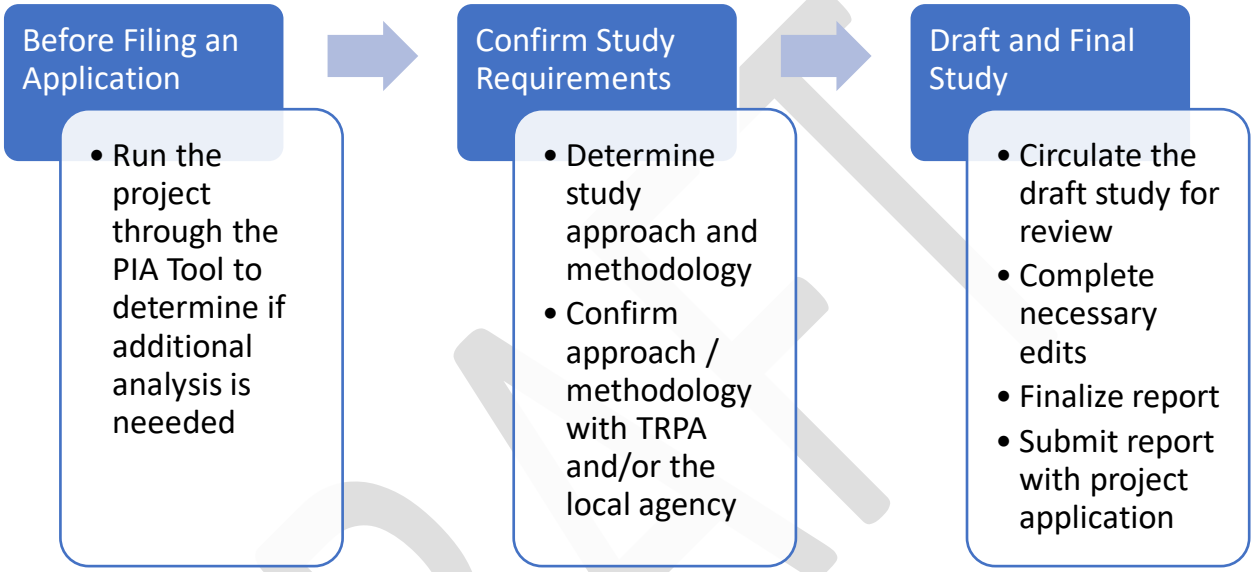
The process will depend on which circumstance applies to the project. As a reminder, there are three possibilities:

- **The project is screened from further analysis.** No analysis is needed. The PIA Tool can be used to calculate VMT generation and the required mobility mitigation fee.

[16] A list of other local transportation guidelines is included in Section 1.2.

- **The project can be analyzed by the PIA Tool.** Project information can be entered into the PIA Tool, which completes the analysis and generates a report for submittal with the project application.
- **The project requires a detailed analysis.** A transportation analyst will need to conduct a project-specific VMT analysis. The analysis will generally follow this process:

FIGURE 3: VMT Analysis Process



STEP 1: BEFORE FILING AN APPLICATION

Before filing an application, an applicant should estimate the amount of average daily VMT their project will generate ("VMT generation"). This number is important as it can help determine whether the project is exempt from further analysis. TRPA has developed the PIA Tool, as described in Section 1.5, to help with these calculations. By entering in a project's land use type, size, and location, the PIA Tool can determine average daily VMT. Among other features, the tool can determine whether a project is screened, and if not, what level of analysis is needed.

Applicants who have large or more complex proposals may consider requesting a pre-application consultation through TRPA. Pre-application consultations help to convey important information and direction early in the planning stages. Having this consultation early on can help avoid delays and major changes to design after an application is submitted. A pre-application consultation request form can be accessed here and submitted to TRPA along with a detailed project description, conceptual site plan, and required fee. Many local agencies likewise offer pre-application consultations.

The PIA Tool will generate a report that identifies a project's screening status. For qualifying projects, it will also prepare a VMT analysis report. This report should be submitted alongside the project application. Otherwise,

separate calculations for VMT generation should be submitted. In some cases, the PIA Tool will indicate that a more detailed VMT analysis is needed.

Even through the PIA Tool may be able to complete an analysis for the project, an applicant may still choose to do a more detailed VMT analysis if they believe it will result in a better outcome. The same is true of a screened project[17].

Where the PIA Tool indicates that a project is subject to a VMT analysis, or where the applicant chooses to do a VMT analysis in lieu of using the PIA tool, the applicant should begin the process of finding a qualified professional transportation analyst. The transportation analyst should then begin to contact TRPA and local agency staff. TRPA and local agency staff may request additional information from the project applicant or transportation analyst regarding transportation characteristics of the proposed project. This helps to determine the type and extent of analysis that is needed. If the project is modified in any way, the scope of work may require modification at the discretion of TRPA and the local agency.

STEP 2: CONFIRM STUDY REQUIREMENTS

For screened projects or projects that have been fully analyzed using the PIA Tool, Steps 3 and 4 are not needed. The assigned project planner will review the calculations to confirm that screening criteria or the standard of significance has been met. In cases where the screening criteria has not been met and the PIA Tool is not appropriate for analysis, a detailed analysis will be required. This can be confirmed with TRPA Transportation Planning staff.

Before beginning the detailed VMT analysis, the transportation analyst will coordinate with TRPA staff on the requirements of the VMT analysis. The transportation analyst will review these guidelines and determine the extent of analysis that is required. TRPA staff shall be consulted to confirm the extent of the study area and overall scope of the study. The proposed scope of the study will be submitted to TRPA and local agency staff for review and comment. TRPA will either provide an email confirming the scope of the study or identify revisions to the proposed scope of the study. The transportation analyst may request a meeting or conference call to clarify the scoping comments and establish requirements.

STEP 3: PREPARE A STUDY AND SUBMIT A DRAFT

The transportation analyst will prepare a draft VMT analysis consistent with the requirements established in Steps 1 and 2 and the procedures outlined in these guidelines. The draft VMT analysis will be submitted to TRPA and the local agency for review. TRPA will provide written comments on the draft study.

STEP 4: FINALIZE THE STUDY

The transportation analyst will address all TRPA comments and produce a final VMT analysis. A record identifying how each comment was addressed shall also accompany the final VMT analysis. TRPA staff will review the final VMT analysis and provide written comments again, if needed. Steps 3 and 4 will repeat until TRPA's comments are addressed and resolved sufficiently. The applicant should be sure to incorporate the results of the VMT analysis

[17] Screened projects may opt to produce a project-specific VMT analysis if they believe doing so would result in a more accurate estimate for VMT generation. The VMT analysis can then be used to determine the appropriate mobility mitigation fee.

into the IEC, EA, or EIS. Any mitigation measures identified in the analysis will be carried forward as conditions of approval.

3 Scope of the Study

If a VMT analysis is required by TRPA, the scope of the VMT analysis will depend on the location and size of the proposed project and the prevailing conditions in the surrounding area.

3.1 STUDY AREA

TRPA's analysis of VMT considers only VMT that is generated within the Tahoe Basin. For potential impacts to VMT, the analysis tools used should consider in-basin VMT only. VMT for projects within California will also be evaluated by the local jurisdiction using full-trip length. Applicants should discuss VMT analysis requirements with local jurisdictions.

3.2 ANALYSIS SCENARIOS

The VMT analysis should consider the project's effect on both baseline and cumulative conditions. Additional analysis scenarios may be required in the VMT analysis dependent on project conditions and setting. For example, other scenarios may be needed to test phasing or other interim conditions at the discretion of TRPA.

In some instances, a larger development will be built in phases. If the VMT analysis fully addresses development phasing and a subsequent phase or project is consistent (land use, transportation network, etc.) with the larger development plan, subsequent phases will generally not require supplemental VMT analysis.

Cumulative analysis is required for commercial, recreation, and transportation projects. A project's cumulative impacts are based on an assessment of whether the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, other current projects, and probable future projects. Residential, tourist accommodation, and public service projects may not be required to analyze cumulative VMT impacts, because such projects would have no cumulative impact distinct from the project impact. This exception does not apply if background VMT trends for the efficiency metric are increasing.

In some cases, the cumulative VMT effects of a project may be less than the existing VMT, due to improved land use mix in the study area. In such cases, cumulative VMT may be addressed with substantial evidence[18].

3.3 CONSULTATION WITH OTHER JURISDICTIONS

If the study area overlaps with other jurisdictions, the project may not be evaluated using the PIA Tool. In these circumstances, the transportation analyst must consult with other jurisdictions to verify study locations and to specify the criteria that should be used in the VMT analysis for these locations. TRPA Transportation Planning staff can facilitate consultations, if needed.

[18] "Substantial evidence" means enough relevant information and reasonable inferences from the information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.

4 VMT Assessment

This section describes the process and procedures for conducting a VMT assessment. VMT refers to the amount and distance of automobile travel attributable to a project. VMT generally represents the number of vehicle trips generated by a project multiplied by the average trip length for those trips.

VMT does not directly measure traffic operations but instead is a measure of network use or efficiency, especially if expressed as a function of population or employment (i.e., VMT per capita). VMT tends to increase as land use density decreases and travel becomes more reliant on the use of automobiles due to the long distances between origins and destinations. VMT can also serve as a proxy for impacts related to energy use, air pollution emissions, greenhouse gas (GHG) emissions, safety, and roadway maintenance. The traditional use of VMT in environmental impact analysis is to estimate mobile air pollution emissions, GHG emissions, and energy consumption.

As identified in Section 1.2 of this document, TRPA maintains an environmental threshold standard concerning VMT. Compliance with the threshold standard is ensured by quantifying and mitigating VMT impacts associated with plans and projects.

These guidelines present direction for analyzing VMT impacts for long-range plans and land development projects within the Tahoe Basin, as described in Chapters 3 and 65 of the TRPA Code of Ordinances. This section addresses several aspects of VMT impact analysis, and is organized as follows:

- **Screening Criteria** – Screening criteria are intended to quickly identify when a project should be expected to cause a less-than-significant VMT impact without conducting a detailed analysis. See Section 65.2.3 of the TRPA Code of Ordinances.
- **Standards of Significance –** Standards of significance define what constitutes an acceptable level of VMT and what is considered a significant level of VMT requiring mitigation. The standards are set in Section 65.2.4 of the TRPA Code of Ordinances.
- **Analysis Methodology –** These are the procedures for how daily VMT generation will be calculated.
- **Mitigation** – Projects that are found to have a significant VMT impact based on the standards of significance are required to implement mitigation measures[19] to reduce impacts to a less-than-significant level. The guidelines establish appropriate mitigation and methodology for evaluating mitigation effectiveness.

4.1 SCREENING CRITERIA

Screened projects are required to calculate project-generated VMT and pay the mobility mitigation fee associated with the project to offset the net additional VMT it generates. When a project is screened, it is not required to mitigate to the standard of significance for the project type. Screened projects may optionally apply mitigations to reduce their mobility mitigation fee.

See Section 1.4, *Projects Exempt from Further VMT Analysis* for details on screening criteria. Section 1.4 outlines the criteria for four types of projects that are screened from further analysis:

[19] Mitigation measures are identified in Subparagraph 65.2.4.C of the TRPA Code of Ordinances.

- Affordable housing projects;
- Projects generating low VMT
- Transit, active transportation, and certain other transportation-related projects; and
- Projects fully analyzed under an area plan.

The main goal of screening is to streamline VMT impact assessment by removing projects that are 1) expected to have a minor impact to transportation by producing less VMT than the adopted standard of significance or by providing a beneficial outcome (e.g., affordable housing); or 2) are simple enough that their impacts can be determined without undergoing a complex analysis.

Projects that are screened most effectively mitigate their impacts with VMT through paying mobility mitigation fees, which help fund implementation of projects and programs designed to mitigate anticipated future VMT in the region. Non-screened projects are of a size that can meaningfully mitigate VMT at the project level through implementation of mitigation strategies and paying fees that support regional VMT mitigations.

EVALUATING MIXED-USE PROJECTS

For mixed use projects, the aggregated VMT generation, as a whole, is considered. This requires calculating VMT generation for each individual land use and adding them together:

$$Mixed\ Use\ Project - Generated\ VMT$$

$$= Project\ Generated\ VMT\ for\ Land\ Use\ 1 + Project\ Generated\ VMT\ for\ Land\ Use\ 2 + \cdots$$

Affordable housing that meets the screening criteria in Section 1.4 should be excluded from mixed-use project VMT generation calculations.

EVALUATING REDEVELOPMENT PROJECTS

For projects replacing an existing development or use[20], the net average daily VMT generation should be considered against the screening criteria. This requires calculating both existing average daily VMT and average daily VMT under the proposed project.

$$Redevelopment\ Project\ Net\ Average\ Daily\ VMT$$

$$= Proposed\ Project\ Average\ Daily\ VMT - Existing\ Project\ Average\ Daily\ VMT$$

EVALUATING PLANS, ORDINANCES, AND AMENDMENTS

The policy effect of plans, ordinances, and amendments must be considered in relation to trip generation and trip length. In many cases a policy proposal may have no effect on vehicle trips or trip lengths. An example is the modification of an exterior lighting standard in an area plan. Similarly, a policy proposal may rely on the fact that future development is subject to project-specific VMT analysis to provide the basis for a conclusion that there will be no resulting net VMT generation.

[20] Per TRPA Code Subparagraph 65.2.3.C, the use must not have been discontinued for more than 60 months prior to submission of a complete application to TRPA.

In other cases, a policy proposal may result in additional vehicle trips or longer trip lengths. An example is expansion of a Town Center boundary. For these proposals, VMT generation must be estimated using the calculations in these guidelines. Proposals that result in generation of more than 650 Vehicle Miles Travelled[21] are ineligible for screening and are subject to detailed VMT analysis.

4.2 STANDARDS OF SIGNIFICANCE

Per the TRPA Initial Environmental Checklist, a project could have a transportation impact on the environment if it involves more than 650 daily Vehicle Miles Travelled (VMT). These projects must check "Yes" on the first transportation question (13.a) on the Initial Environmental Checklist (IEC). The TRPA Code requires that the applicant describe and evaluate the significance of all impacts on the IEC for which the answer is "Yes."

Even though a project may generate more than 650 daily VMT, it may not result in a significant effect. The determination of significance is based on two factors:

- Does the project meet the screening criteria?
  Projects that meet the screening criteria are considered to result in less-than-significant VMT impacts with payment of the mobility mitigation fee.

- For non-screened projects, does the project meet the standard of significance?
  Projects that meet the applicable standard of significance in Table 3, below, are considered to result in less-than-significant VMT impacts with payment of the mobility mitigation fee.

TABLE 3: Standards of Significance

Land Use or Project Type[22]	Metric	Standard of Significance
Residential	Average Daily VMT per resident	15 percent below subregional average metric
Tourist accommodation	Average Daily VMT per Tourist Accommodation Unit	15 percent below subregional average metric
Public Service	Average Daily VMT per thousand square feet of development	15 percent below subregional average of the specific public service use
Commercial - Other	Average Daily VMT	No net increase in average daily VMT
Recreation – Campgrounds[23]	Average Daily VMT per site	Case-by-case basis
Recreation – Other	Average Daily VMT	No net increase in average daily VMT

[21] See Code of Ordinances Subparagraph 65.2.3.C.

[22] See Code of Ordinances Table 21.4-A for specific land use types and definitions.

[23] Includes the following uses in Table 21.4-A of the Code of Ordinances: Developed campgrounds, group facilities, and undeveloped campgrounds.

Land Use or Project Type[22]	Metric	Standard of Significance
Transportation Projects	Average Daily VMT	No net increase in average daily VMT

Projects that adhere to the standards of significance in Table 3 are considered to result in no significant environmental effect, with payment of the calculated mobility mitigation fee.

EVALUATING MIXED-USE PROJECTS

Mixed-use projects should be analyzed either by evaluating overall VMT effect or by considering each land use component of the project independently and applying the standard of significance for each land use type. Mixed-use project evaluation should recognize internal trip capture within the project site in its vehicle trip generation calculation before evaluating the land use type for screening and before applying the standard of significance. Projects replacing an existing mixed-use development will be considered on a case-by-case basis for compliance with the standards of significance.

EVALUATING REDEVELOPMENT PROJECTS

Where a project replaces existing VMT-generating land uses that leads to a net overall decrease in VMT, the project may be presumed to have a less-than-significant transportation impact. This presumption may be applied regardless of the project's VMT impacts per the standards in Table 3. The project should directly replace the existing land use, i.e., if the project site was vacated for a period of 60 months or more prior to the development proposal[24], this presumption will not apply. A project replacing a mixed-use development will be considered on a case-by-case basis for compliance with the standards of significance.

EVALUATING PLANS, ORDINANCES, AND AMENDMENTS

Plans, ordinances, and amendments to plans and ordinances should be analyzed by evaluating each land use component of the policy changes independently and applying the standard of significance for each land use type.

4.3 ANALYSIS METHODOLOGY

If VMT analysis is required, a variety of analysis methodologies are available for use, including the TRPA project impact assessment tool, quantitative assessments, and/or qualitative assessments. The transportation analyst shall consult with TRPA staff to determine which methodology is most appropriate given the location and characteristics of the proposed project.

Whichever methodology is selected, it is important that the same method, data source, or approach is used for all aspects of the VMT analysis to establish an "apples-to-apples" comparison between significance standards, project VMT forecasts, and VMT reduction forecasts, consistent with guidance presented in the OPR Technical Advisory.

VMT forecasting should consider either VMT generation or VMT effect depending upon the land use:

[24] See Subparagraph 65.2.3.C of the Code of Ordinances.

TABLE 4: VMT Forecasting Approach

	VMT Generation	VMT Effect
Applicable Land Use	Residential, Tourist Accommodation, Public Service, and the following Commercial uses: offices, light industrial, and warehousing.	Other Commercial uses, Recreation, Transportation, and Other
Quantification	How much average daily VMT is being generated by the project?	What is the project's overall effect on VMT?

DETERMINING VMT GENERATION

VMT generation represents the VMT from trips that start or end at the project site. VMT generation is calculated for three purposes:

- Determining whether a project meets the screening criteria.
- Forecasting whether a residential, tourist accommodation, or public service project meets the standard of significance.
- Calculating the mobility mitigation fee for screened projects and non-screened residential, tourist accommodation, and public service projects.

VMT generation is generally estimated using the following formulas:

TABLE 5: VMT Generation

Land Use	VMT Calculation
Residential	$Residential\ project\text{–}\ generated\ VMT$ $= PIA\ Zone\ VMT\ per\ resident * Number\ of\ proposed\ residential\ units$ $* Regional\ average\ residents\ per\ unit$
Tourist Accommodation Units	$TAU\ project\text{–}\ generated\ VMT$ $= Zone\ average\ trip\ length\ (all\ trips)$ $* ITE\ daily\ trip\ rate\ for\ project\ land\ use\ type$ $* Number\ of\ proposed\ TAUs$
Public Service	$Public\ service\ project\text{–}\ generated\ VMT$ $= PIA\ Zone\ average\ trip\ length\ (all\ trips)$ $* ITE\ daily\ trip\ rate\ for\ project\ land\ use\ type$ $* Amount\ of\ proposed\ land\ use$
Commercial and Recreation	$Commercial\ and\ Recreation\ VMT$ $= Zone\ average\ trip\ length\ (all\ trips)$ $* ITE\ daily\ trip\ rate\ for\ project\ land\ use\ type$ $* Amount\ of\ proposed\ land\ use$

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DETERMINING VMT EFFECT

VMT effect represents the influence the project has on VMT generation from the surrounding land uses or on the length of trips already using the transportation network. Changes in the amount of vehicle travel added to the roadway network should be quantified and analyzed as part of a VMT analysis for commercial, recreation, transportation, and other projects. VMT effect is intended to capture complex changes in trip making that could result from certain types of development. For example, circumstances where adding a retail use will reduce vehicle trip lengths may result in a net reduction in VMT effect. Ideally, the transportation analyst will use a model or method that is sensitive to the project's change in trip making. VMT would be calculated in the area affected by the project (e.g., market shed) pre-development and post-development. The net change in VMT is how VMT effect would be quantified.

The transportation analyst should discuss the proposed approach and methodology for calculating VMT effect with TRPA Transportation staff before embarking on the analysis. The analysis should use appropriate tools to make a reasonably accurate estimate of the project's effect on vehicle travel.

DETERMINING AVERAGE TRIP LENGTHS AND VMT PER RESIDENT

TRPA has broken down the Tahoe Basin into 79 Project Impact Assessment (PIA) Zones. Each PIA zone has associated data on VMT per resident and average trip length, which are included in Appendix C. This information has been programmed into the PIA Tool to help calculate VMT generation. You can also consult the PIA Tool Guidelines for details on this data.

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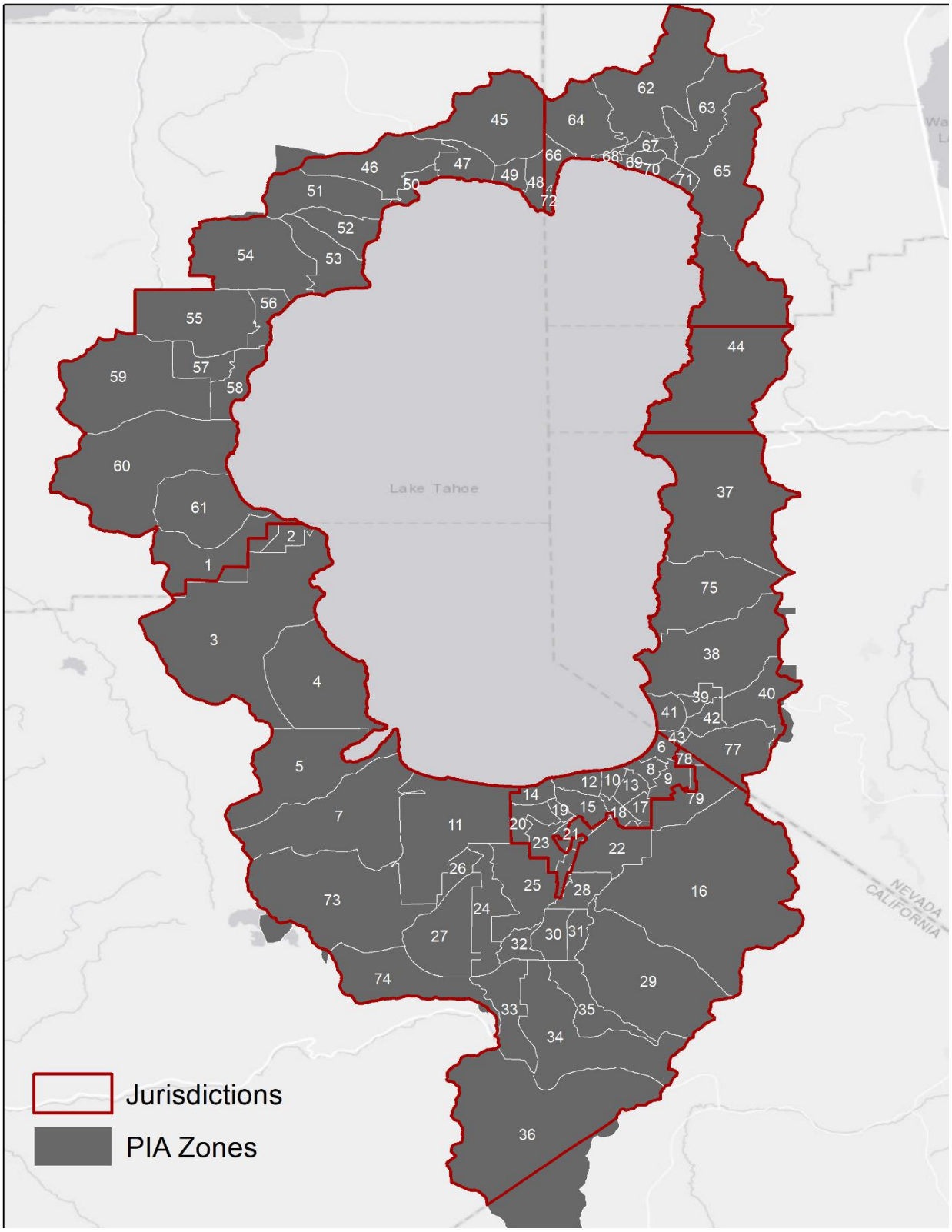
FIGURE 4: PIA Zones



DETERMINING THE STANDARD OF SIGNIFICANCE

All projects that are not screened must be compared to the standard of significance. In some cases, the project's impact will be less than the standard of significance. This means that no mitigation is needed beyond payment of the mobility mitigation fee. Projects that exceed the standard of significance must provide sufficient mitigation to reduce project VMT to the standard of significance.

Standard of significance is calculated as follows:

TABLE 6: Standard of Significance Calculation

Land Use	Standard of Significance Calculation
Residential	$Residential\ standard\ of\ significance$ $= Subregional\ average\ VMT\ per\ resident$ $* Number\ of\ proposed\ residential\ units$ $* Regional\ average\ residents\ per\ unit * 0.85$
Tourist Accommodation Units	$TAU\ standard\ of\ significance$ $= Subrergional\ average\ trip\ length\ (all\ trips)$ $* ITE\ daily\ trip\ rate\ for\ project\ land\ use\ type$ $* Number\ of\ proposed\ TAUs * 0.85$
Public Service	$Public\ service\ standard\ of\ significance$ $= PIA\ Zone\ average\ trip\ length\ (all\ trips)$ $* ITE\ daily\ trip\ rate\ for\ project\ land\ use\ type$ $* Amount\ of\ proposed\ land\ use * 0.85$
Commercial and Recreation	$Commercial\ and\ Recreation\ VMT$ $= 0\ net\ average\ daily\ Vehicle\ Miles\ Travelled$

DETERMINING THE MOBILITY MITIGATION FEE

The mobility mitigation fee is calculated based on VMT generation.

$$Mobility\ Mitigation\ Fee$$

$$= Fee\ Rate * Net\ Average\ Daily\ VMT$$

Fee rates are determined by land use. As each trip that produces VMT has an origin and a destination, the fee is apportioned accordingly. Since 1987, TRPA has weighted the origin/production end of the trip at 90 percent and the destination/attraction end of the trip at 10 percent. The current fee rates, as established in Section 10.8.5 of the Rules of Procedure is as follows:

TABLE 7: Mobility Mitigation Fee Rates (2021)

Land Use	Fee Rate
Residential	$49.90 / average daily VMT
Tourist Accommodation	
Campground or Recreational Vehicle Site	

Land Use	Fee Rate
Commercial Floor Area	$5.54 / average daily VMT
Other Development	

USING THE PIA TOOL

In addition to assessing whether a project meets screening criteria and calculating the required mobility mitigation fee, the PIA Tool may be used to assist with assessment of a proposed residential, tourist accommodation unit, or public service project's generated VMT. To use the TRPA PIA Tool, the project must be generally consistent in size and land use type (i.e., density, mix of uses, transit accessibility, etc.) with the surrounding built environment. See Section 1.5 for more information on PIA Tool functionality

CONDUCTING A QUANTITATIVE ANALYSIS

Sketch models, spreadsheet models, research, and commercially available data can all be used to calculate and estimate VMT. Any quantitative analysis should:

1. Establish the baseline VMT without the project.
2. Establish the applicable VMT impact standard of significance value.
3. Analyze the project under baseline and cumulative conditions.
4. Identify and quantify mitigation measures necessary to reduce project VMT below the standard of significance.

USING TRAVEL FORECASTING MODELS

Available travel forecasting models, such as the Tahoe Activity-Based (AB) Model are unsuitable for analysis on a project scale.[25] The Tahoe AB Model may, however, be appropriate to determine cumulative effect of policy-level or programmatic changes (e.g. area plan amendments, code amendments, etc.). Other appropriate models may be considered on a case-by-case basis subject to TRPA approval.

In cases where TRPA has approved the use of a model, the model should be run both without and with the project under baseline and cumulative conditions and model outputs should be processed for comparison according to the standards of significance presented in Section 4.2. VMT for the area shall be produced using the same process both under "without project" and "with project" conditions. This will ensure an apples-to-apples comparison of the baseline and cumulative no project VMT conditions and the project's VMT forecasts when conducting the VMT impact analysis and applying the appropriate VMT significance standard. For the cumulative model runs, the VMT reductions associated with the mandatory VMT mitigation fee program should be included.

The resulting VMT values shall be compared to the appropriate significance standard discussed above to determine whether the project results in a significant VMT.

TRANSPORTATION PROJECTS – INDUCED DEMAND

Transportation project analysis must account for induced VMT, which is additional vehicle travel created by changes in travel patterns resulting from the transportation project. In some cases, the Tahoe AB model will be

[25] Fehr & Peers (April 6, 2021). *Tahoe AB Model Dynamic Validation Test Results*

appropriate for this calculation; in others, tools such as the National Center for Sustainable Transportation Induced Travel Calculator[26] may be appropriate. Consult with TRPA staff to determine the best method for this accounting and refer to the Caltrans TAF and TAC documents cited above, if applicable.

OTHER METHODOLOGIES

As VMT analysis techniques continue to evolve, other methods, data sources, and approaches may be acceptable to conduct VMT analyses. For example, VMT estimates developed using travel data from surveys, mobile devices, and credit card transactions may be appropriate in certain circumstances. Also, qualitative assessments supported by substantial evidence may be acceptable.

A qualitative assessment of VMT is a compilation of substantial evidence that describes why the project would or would not have a significant impact on VMT. Qualitative assessments may be used for projects that have unique characteristics that cannot be accurately analyzed in the TRPA project impact assessment tool or Tahoe AB model. Qualitative assessments can include economic or market analysis, socioeconomic or demographic data, or other substantial evidence to support the significance finding.

4.4 MITIGATION

Mitigation requirements are established in Subparagraph 65.2.4.C of the TRPA Code of Ordinances. The code requires payment of the mobility mitigation fee for all new unmitigated VMT. Fee revenue is used by the region's jurisdictions and implementing agencies to provide the transportation infrastructure necessary to implement VMT reduction policies in the Regional Plan.

TABLE 8: Mitigation Requirements

Project Scenario	Mitigation Requirements	
	Payment of the Mobility Mitigation Fee	Project-Level Mitigation
Projects that meet the screening criteria	Required	Optional
Non-screened projects that meet the standard of significance	Required	Optional
Non-screened projects that do not meet the standard of significance	Required	Required

Additional mitigation beyond payment of the mobility mitigation fee will be required of any project that (a) is not screened, and (b) generates more average daily VMT than the corresponding standard of significance. Non-screened projects that are above the defined standard of significance can be mitigated in two ways:

- **Project-Level Mitigation** – All non-screened projects that exceed the standard of significance must first exhaust project-level mitigation. Project-level mitigation may consist of design-related strategies, like pedestrian infrastructure or end-of-trip facilities such as showers for bicycle

[26] https://travelcalculator.ncst.ucdavis.edu/

commuters. This mitigation may also include long-term programs, like employee carpool programs or shuttles to link employees to work locations.

- **Additional Contribution to the Mobility Mitigation Fund** – Projects that have exhausted all applicable site-specific mitigation strategies may make a contribution to the mobility mitigation fund. This is separate from and above and beyond payment of the mobility mitigation fee.

PROJECT-LEVEL MITIGATION OPTIONS

If a project would result in VMT levels that exceed the standards of significance identified in Table 2, the project would have a significant impact to implementation of the VMT threshold. The significant VMT impact must be mitigated by reducing the project's VMT. Typically, VMT is reduced by implementing strategies that achieve one of the following:

- Reducing the number of automobile trips generated by the residents, employees, or visitors of the project;
- Reducing the distance that project residents, employees, or visitors drive; or
- Reducing the automobile trips or trip distances generated elsewhere in the basin.

A sample of mitigation measures are included in Appendix D. Additional studies and compilations of mitigation measures are ongoing and should be considered as they become available. The transportation analyst may identify, and TRPA may approve, other additional strategies if supported by substantial evidence. As data and research continues, emerging strategies may be applied at TRPA's discretion.

The project applicant or transportation analyst should coordinate with TRPA staff when unclear on determining appropriate VMT reduction strategies and methods for calculating their effectiveness.

APPLYING STRATEGIES AND ESTIMATING REDUCTIONS

Appendix D identifies the maximum reduction available for each of six mitigation measures. The estimation methodologies for these mitigation measures are outlined in the PIA Tool Guidelines.

When applying other strategies to a project or plan, the following factors should be considered:

- The Tahoe Basin, due to its large number of visitors, seasonality, land use, and other factors, has unique travel characteristics compared to most suburban centers or suburbs. Wherever possible, local data should be used when estimating VMT reductions. When applying VMT reductions based on studies from other areas, the possible effects of the Tahoe Basin's unique characteristics should be considered when estimating reductions.

- When a range of reductions is provided for a strategy, review the cited research to determine the conditions most comparable to the project site and how to calculate reductions. Reductions may vary by the location of a project, land use context, size of the project, distance to key destinations, and/or other factors.

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- Each of the strategies can be combined[27] with others to increase the effectiveness of VMT mitigation. For example, building sidewalks and bikeways that connect neighborhoods to transit stops may increase transit use more than transit service improvements alone. However, the interaction between the various strategies is complex and sometimes counterintuitive. Generally, with each additional measure implemented, a VMT reduction is achieved, but the incremental benefit of VMT reduction may diminish.

  To quantify the VMT reduction that results from combining strategies, the formula below can be applied absent additional knowledge or information:

$$Total\ VMT\ Reduction = (1 - P_a) * (1 - P_b) * (1 - P_c) * \ldots$$

  where

$$P_x = percent\ reduction\ of\ each\ VMT\ reduction\ strategy$$

In alignment with CAPCOA recommendations, the maximum aggregate reduction across all strategies is 20 percent for areas within one-half mile of Centers and 15 percent for other areas.

CONTRIBUTION TO THE MOBILITY MITIGATION FUND

TRPA manages a mobility mitigation fund, which is used towards projects that reduce VMT. Examples of these projects include multi-use paths, transit, and other active transportation network improvements. Dispersal of mitigation funds is governed by the Air and Water Quality Fund Release Policy Guidelines.

There are two means by which funds are gathered:

- **Payment of the Mobility Mitigation Fee** – The mobility mitigation fee applies to all projects that generate VMT, including screened projects, and is used to offset an individual project's contribution towards the regional and cumulative effect of additional daily VMT.

- **Additional Contribution to the Mobility Mitigation Fund** – Projects that exceed the standard of significance even after using all applicable project-level mitigation measures must contribute to the mobility mitigation fund in an amount sufficient to pay for the actual cost of the necessary mitigation measures. Additional contribution to the mobility mitigation fund may only be made after exhausting all applicable site-specific mitigation measures.

MOBILITY MITIGATION FEE

A mobility mitigation fee has been established (See Section 10.8.5.A of the TRPA Rules of Procedure) to help offset cumulative and regional VMT impacts. The fee is based on a project's net, unmitigated VMT. The PIA Tool may be used to determine daily VMT generation and to estimate the fee.

Local jurisdictions that have MOUs with TRPA will collect the TRPA mobility mitigation fee for covered projects. TRPA will collect the fee when no MOU is in place and for non-covered projects.

[27] This adjustment methodology, commonly known as "multiplicative dampening," is not supported by research related to the actual effectiveness of combined strategies. The intent of including this formula is to provide a mechanism to minimize the potential to overstate the VMT reduction effectiveness.

ADDITIONAL CONTRIBUTION – PROJECTS REMAINING OVER THE STANDARD OF SIGNIFICANCE

In most cases, projects that remain above the standard of significance after incorporating all applicable project-level mitigation measures may make an additional contribution to the mobility mitigation fund above and beyond what is required by the mobility mitigation fee. Additional contributions to the mobility mitigation fund will be negotiated on a case-by-case basis in consideration of the actual cost of improvements that reduce VMT. Contact TRPA early in the process to determine approximate "per VMT" costs.

Making an additional contribution to the mitigation fund is not an option for every project. Location and land use mix is an important consideration for projects that remain over the standard of significance. In some cases, TRPA may determine that a project cannot meet the findings for approval. Projects that could result in significant and unavoidable VMT impacts may adversely affect implementation of the Regional Plan. Additionally, approval of these projects could contribute towards exceedance of the VMT threshold.

MITIGATION MONITORING

Mitigation must remain in place for the life of the project or plan. Typically, mitigation falls into three categories:

- **Structural measures.** Structural measures are measures that require something to be installed or constructed. Examples include bike racks, showers, and signage for preferred carpool parking. Structural measures must be shown on the project plans before permit acknowledgement. These measures also need to be installed or constructed prior to final inspection. Once structural measures are installed / constructed they must be maintained for the life of project.

- **Programmatic measures.** Programmatic measures are those that require continuous implementation of certain actions. These include running a shuttle, unbundling parking costs, and encouraging carpooling. Programs resulting from these measures must remain in place for the life of the project. A plan or other document may need to be prepared before permit acknowledgement to outline the approach. This document is submitted to the TRPA Transportation Planning staff for review and approval. Once the measure is in place, the applicant or successors in interest will be responsible to report to TRPA on their compliance annually by July 1.

- **Policy measures.** Policy-related proposals, such as code or plan amendments, could include measures that make the policy effect be "self-mitigating." Drafters of these proposals can use various tools, like code standards, policies, and required findings, to ensure that subject land uses meet the standards of significance. Monitoring is accomplished through permit review of subsequent projects.

4.5 SIGNIFICANT AND UNAVOIDABLE IMPACT

Under TRPA Code requirements, all projects and plans that are not screened must mitigate to the standard of significance. Because of this requirement, no project that complies with TRPA Code should result in a significant and unavoidable VMT impact.

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Appendix A. Relevant Regional Plan Goals and Policies

GOAL AQ-2

MAINTAIN AN EFFECTIVE MOBILITY MITIGATION PROGRAM FOR THE REGION.

Administer a program that effectively mitigates significant air quality impacts resulting from new projects or changes in use. Under the mitigation program, impact fees and mitigation measures are among the strategies to address significant impacts.

POLICIES:

AQ-2.1 IN ADDITION TO OTHER POLICIES AND REGULATIONS INTENDED TO MINIMIZE AIR QUALITY IMPACTS OF DEVELOPMENT, COLLECT AND EXPEND MOBILITY MITIGATION FEES TO OFFSET AIR POLLUTION IN COORDINATION WITH THE ENVIRONMENTAL IMPROVEMENT PROGRAM (EIP). A PORTION OF MITIGATION FUNDS SHALL BE EXPENDED IN THE LOCAL JURISDICTION WHERE THE FUNDS ARE GENERATED AND A PORTION OF THE FUNDS MAY BE USED ON THE MOST COST EFFECTIVE AND ENVIRONMENTALLY BENEFICIAL PROJECTS IN THE REGION.

Protect and enhance the environment, promote energy conservation, and reduce greenhouse gas emissions.

Policies

1.1 Support mixed-use, transit-oriented development and community revitalization projects that encourage walking, bicycling, and easy access to existing and planned transit stops in town centers.

1.2 Leverage transportation projects to benefit multiple environmental thresholds through integration with the Environmental Improvement Program.

1.3 Implement greenhouse gas reduction strategies in alignment with federal, state, tribal and regional requirements and goals.

1.4 Develop and implement project impact analysis, mitigation strategies and fee programs to reduce per capita Vehicle Miles Travelled and auto trips.

1.5 Facilitate and promote the use of zero emission transit, fleet, and personal vehicles through implementation of the Tahoe-Truckee Plug-In Electric Vehicle Readiness Plan, education, incentives, funding, and permit streamlining.

1.6 Collaborate with all jurisdictions and employers in the basin to develop, maintain, and implement programs to reduce employee vehicle trips.

1.7 Coordinate with the City of South Lake Tahoe to update and maintain an Airport Master Plan and limit aviation facilities within the Tahoe Region to existing facilities.

1.8 Traffic calming and noise reduction strategies to achieve Community Noise Equivalent Level standards should be included when planning transportation improvements.

1.9 Develop and implement a cooperative, continuous, and comprehensive Congestion Management Process to adaptively manage congestion within the Region's multi-modal transportation system, with a focus on peak traffic periods and Basin entry/exit routes.

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GOAL 2: CONNECTIVITY

Enhance and sustain the connectivity and accessibility of the Tahoe transportation system, across and between modes, communities, and neighboring regions, for people and goods.

Policies

Transit

2.1 Coordinate with Federal, state, tribal and local governments, transportation management associations, and private sector partners to fund and operate reliable transportation alternatives.

2.2 Provide frequent transit service to recreational areas, including trailheads and shoreline access points.

2.3 Collaborate with regional and inter-regional partners to establish efficient transportation connections within the Trans-Sierra Region including to and from Tahoe and surrounding communities.

2.4 Collaborate with nearby communities that share transportation to and from the Tahoe Basin, including the Town of Truckee/Resort Triangle and the Carson/Minden Valley.

2.5 Improve the existing transit system for the user making it frequent, fun, and free in targeted locations.

2.6 Use the best available technology to implement waterborne transportation systems that coordinate with other travel options consistent with the Shoreline Plan Greenhouse Gas Reduction Strategy.

2.7 Provide specialized and subsidized public transportation services and programs for individuals with disabilities that is consistent with the Coordinated Human Services Transportation plans.

2. 8 Ensure all transportation projects, programs, and policies meet the transportation needs and minimize negative impacts for all communities, particularly disadvantaged communities and people with special needs.

2.9 Ensure that pedestrian and bicycle facilities are Americans with Disabilities Act (ADA) compliant and Universally Accessible.

2.10 Ensure all transit is Americans with Disabilities Act (ADA) compliant, Universally Accessible, and consistent with Coordinated Human Services Transportation Plans.

2.11 Develop standards and guidelines for incorporating multimodal amenities in new development or redevelopment, as part of all plans, including but not limited to local area plans.

2.12 Implement the Safe Routes to School program.

2.13 Coordinate public and private transit service, where feasible, to reduce service costs and avoid service duplication.

2.14 Support, where feasible, the implementation of on-demand, dynamically routed transit

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shuttles.

Active Transportation

2.15 Develop and maintain an Active Transportation Plan as part of the regional transportation plan. Include policies, a project list of existing and proposed bicycle and pedestrian facilities, and strategies for implementation in the Active Transportation Plan.

2.16 Incorporate programs and policies of the active transportation plan into regional and local land use plans and regulatory processes.

2.17 Construct, upgrade, and maintain pedestrian and bicycle facilities consistent with the active transportation plan.

Multi-modal

2.18 Accommodate the needs of all categories of travelers by designing and operating roads for safe, comfortable, and efficient travel for roadway users of all ages and abilities, such as pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and emergency vehicles.

2.19 Support parking management programs that incentivize non-auto modes and discourage private automobile use at peak times in peak locations, and that alleviate circulating vehicle trips associated with parking availability.

2.20 Coordinate and maintain parking maximums and shared parking standards that support goals and policies of the Regional Plan.

2.21 Parking revenues shall, where feasible, benefit infrastructure and services for transit, pedestrians, and bicyclists within areas where funds are generated.

2.22 Coordinate and include in area plans intermodal transportation facilities ("Mobility Hubs") that serve major activity centers in and outside of the basin connecting where appropriate transit, pedestrian, bicycle, and park and ride facilities.

2.23 In roadway improvements, construct, upgrade, and maintain active transportation and transit facilities along major travel routes. In constrained locations, all design options should be considered, including but not limited to restriping, roadway realignment, signalization, and purchase of right of way.

2.24 Encourage partners to develop and implement plans coordinating wayfinding and signage to build awareness of alternative transportation opportunities including transit, pedestrian, and bicycle facilities.

GOAL 3: SAFETY

Increase safety and security for all users of Tahoe's transportation system.

Policies

3.1 Coordinate the collection and analysis of safety data, identify areas of concern, and propose safety-related improvements and user awareness that support state and federal safety programs and performance measures.

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3.2 Use proven safety design countermeasures for safety hotspots when designing new or modifying existing travel corridors.

3.3 Coordinate safety awareness programs.

3.4 Support emergency preparedness and response planning, including the development of regional evacuation plans.

3. 5 Encourage appropriate agencies to use traffic incident management performance measures.

3.6 Design projects to maximize visibility at vehicular, bicycle, and pedestrian conflict points. Consider increased safety signage, site distance, and other design features, as appropriate.

GOAL 4: OPERATIONS AND CONGESTION MANAGEMENT

Provide an efficient transportation network through coordinated operations, system management, technology, and monitoring.

Policies

4.1 Prioritize regional and local investments that fulfill TRPA objectives in transit, active transportation, transportation demand management, and other programs which support identified TRPA transportation performance outcomes.

4. 2 Enable growth of shared and on-demand shared ride mobility services (i.e., ride-, car-, and bike-sharing, e-hailing, etc.).

4.3 Work to ensure that new transportation services and technologies utilize electric vehicles as feasible.

4.4 Coordinate policies across multiple partners to support the safe use of electric assisted, low-speed devices on paths and trails to serve travel needs in Tahoe

4.5 Identify opportunities to implement comprehensive transportation solutions that include technology, safety, and other supporting elements when developing infrastructure projects.

4.6 Collaborate with jurisdictions and state departments of transportation to adaptively manage roadways for peak traffic periods.

4.7 Promote awareness of travel options through outreach, education, and advertising, particularly in local schools.

4.8 Invest resources in marketing and outreach campaigns to promote the use of non-auto travel options.

4.9 Implement programs and policies of the Tahoe Basin Intelligent Transportation Systems Strategic Plan to support needed infrastructure to achieve regional transportation goals.

4.10 Track and prepare for emerging transportation technologies.

4.11 Level of service (LOS) criteria for the Region's highway system and signalized intersections during peak periods shall be: "C" on rural recreational/scenic roads; "D" on rural developed area roads; "D" on urban developed area roads; "D" for signalized intersections. Level of Service "E" may be acceptable during peak periods in urban areas, but not to exceed four hours per day. These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate

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to provide mobility for users at a level that is proportional to the project-generated traffic in relation to overall traffic conditions on affected roadways.

4.12 Prohibit the construction of roadways to freeway design standards in the Tahoe Region and establish Tahoe specific traffic design volume for project development and analysis.

4. 13 Require the development of traffic management plans for major temporary seasonal activities, including streetscape flexibility within urban centers, and the coordination of simultaneously occurring events.

4.14 Expand and build capacity in Transportation Management Associations (TMAs) in the Tahoe Region to develop public-private partnerships that support transportation initiatives.

4.15 Establish a uniform method of data collection and forecasting for resident and visitor travel behavior and demographics.

4.16 Maintain monitoring programs for all modes that assess the effectiveness of the long-term implementation of local and regional mobility strategies on a publicly accessible reporting platform (e.g., www.laketahoeinfo.org website).

4.17 Establish regional and inter-regional cooperation and cost-sharing to obtain a uniform method of transportation data collection and sharing.

4.18 Design roadway corridors, including driveways, intersections, and scenic turnouts, to minimize impacts to regional traffic flow, transit, and bicycle and pedestrian facilities by using shared access points where feasible.

GOAL 5: ECONOMIC VITALITY & QUALITY OF LIFE

Support the economic vitality of the Tahoe Region to enable a diverse workforce, sustainable environment, and quality experience for both residents and visitors.

Policies

5.1 Encourage community revitalization and transit oriented development projects that comprehensively support regional and local transportation, housing, land use, environment, and other goals.

5.2 Ensure access to public transit is compatible with the neighborhood in identified Priority Communities.

5.3 Encourage collaboration between public land managers, departments of transportation, transit providers, and other regional partners to support sustainable recreation and multi-modal access to recreation sites.

5.4 Collaborate with local, state, tribal, regional, federal, and private partners to develop a regional revenue source to fund Lake Tahoe transportation investments.

5.5 Collaborate with federal, bi-state, and tribal partners to establish efficient rail, air, and bus transportation connections to Tahoe within the Trans-Sierra Region including to and from Tahoe and surrounding metropolitan areas.

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GOAL 6: SYSTEM PRESERVATION

Provide for the preservation of the existing transportation system through maintenance activities that support climate resiliency, water quality, and safety.

Policies

6.1 Preserve the condition of sidewalks and bicycle facilities and maintain them, where feasible, for year-round use.

6.2 Improve winter transit access by providing shelters, cleared sidewalks and paths around stops, winter accessible bike racks, and warm shelters at mobility hubs and major transit stops.

6.3 Maintain and preserve pavement condition to a level that supports the safety of the traveling public and protects water quality.

6.4 Make "dig once" the basin-wide standard, requiring public and private roadway projects to include the installation of conduit to support community needs. (e.g.: fiber optic, broadband, lighting, etc.)

6.5 Consider the increased vulnerability and risk to transportation infrastructure from climate stressors, such as increased precipitation, flooding, and drought when designing new infrastructure and repairing or maintaining existing infrastructure.

6.6 Advance transportation planning through public participation and collaboration.

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Appendix B. VMT Standards and Screening Criteria Justification

SCREENING APPROACH

The main goal of screening is to streamline VMT impact assessment by removing projects that are 1) expected to have a minor impact to transportation by producing less VMT than the adopted standard of significance or by providing a beneficial outcome (e.g., affordable housing); or 2) are simple enough that their impacts can be determined without undergoing a complex analysis.

Screening criteria typically include small projects, such as a single-family residence, projects that would reduce trips or trip length, such as local serving retail or affordable housing, and projects with short or no vehicle trips, such as certain transportation projects like bike paths and sidewalks. Screening can also serve to reduce the time and cost for project development when the project is consistent with adopted local and regional plans.

Projects that are screened most effectively mitigate their impacts with VMT through paying mobility mitigation fees, which help fund implementation of projects and programs identified in the RTP to mitigate anticipated future VMT in the region. Non-screened projects are of a size that can meaningfully mitigate VMT at the project level through implementation of mitigation strategies and paying fees that support regional VMT mitigations.

Projects that are inconsistent with adopted plans cannot be screened and must submit a detailed assessment of the project's impact on VMT.

The screening criteria were created referencing available data, various jurisdictional approaches, and the State of California's Office of Planning and Research (OPR) guidance[28] on implementation of SB 743, which utilizes VMT for project impact assessment for environmental review in that state.

When a project is screened it is not required to mitigate to the standard of significance for the project type. Screened projects mitigate through payment of the mobility mitigation fee for the calculated VMT associated with the project to offset the net additional VMT it generates.

AFFORDABLE HOUSING

Affordable housing that is 100% deed-restricted affordable, moderate, or achievable[29] and is in an area eligible for affordable housing bonus units[30] would be exempt from additional project impact assessment because data demonstrates an association between lower VMT rates and lower household incomes[31]. A low-income factor is

[28] Per the Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018)

[29] Affordable housing, moderate housing, and achievable housing are each defined in Section 90.2 of the Code of Ordinances.

[30] Residential bonus units are restricted to locations within one-half mile of existing transit stops per Subparagraph 52.3.4.F of the Code of Ordinances. These locations are shown in Appendix G.

[31] https://www.cnt.org/sites/default/files/publications/CNT%20Working%20Paper%20revised%202015-12-18.pdf

applied to VMT calculation for affordable, moderate, and achievable housing to reflect the lower VMT associated with this type of project.

ACTIVE TRANSPORTATION

Transportation projects involving active transportation or transit and certain other transportation-related projects would be exempt from additional project impact assessment because these classes of projects would likely not lead to a substantial or measurable increase in VMT, e.g., bicycle, pedestrian, and transit projects.[32]

PREVIOUSLY ANALYZED PROJECTS

Projects analyzed in Area Plans with an environmental analysis per 65.2.4.E of the TRPA Code of Ordinances would be exempt from additional project impact assessment.

LOW-VMT

The previous project impact assessment process, based on daily vehicle trip ends (DVTE), identifies projects that produce less than 200 DVTE as having a minor or insignificant increase and so not requiring additional analysis.[33] To identify lower VMT producing projects which do not require more complex analysis low-VMT is defined in two ways, depending on the location of the project:

- Town and regional centers and their half-mile buffer:
    - The VMT equivalent of 200 DVTE: 1,300 VMT[34]
- All other areas of the region:
    - The VMT equivalent of OPR recommended 110 DVTE: 715 VMT[34]

Projects that do not meet the low-VMT screen will be required to conduct additional analysis and apply mitigations (strategies and/or fees) to reduce the project's VMT to at or below the corresponding standard of significance.

The low-VMT screen for town and regional centers differs from OPR guidance (110 DVTE) in a few ways.

First, OPR guidance for screening projects includes a presumption of less than significant impact for residential, retail, and office projects of any size, when located near a major transit stop or along a high-quality transit corridor, criteria geared toward urban areas and thus not appropriate in Tahoe. The low-VMT screen for town and regional centers and their half-mile buffer supports the same policy aim as the OPR guidance "major transit stop" and "high-quality transit corridor" screen, by encouraging development near transit, and is more conservative because project size in Tahoe is limited by the 1,300 VMT equivalent of 200 DTVE.

Second, the low-VMT screen for town and regional centers differs from OPR guidance because that guidance does not recognize trip length, which can vary depending on project location and the underlying land use types and transportation contexts; and because it best reflects the appropriate mechanisms for projects in the Tahoe region to mitigate their impacts based on their VMT. That is, when a project's impact with VMT is below the low-VMT

[32] Per the Technical Advisory on Evaluating Transportation Impacts in CEQA

[33] Per 65.2.3 Definitions of the TRPA Code of Ordinances

[34] Calculated using the regional average in-basin trip length of 6.53 miles, per the 2018 TRPA Travel Demand Model

screen, it is best able to mitigate its impacts by advancing regional VMT mitigating projects and programs from the RTP by paying the mobility mitigation fee, and, when a project is above the low-VMT screen, by implementing mitigations at the project level and paying fees. The RTP supports the low-VMT screen by providing effective VMT reductions for low-VMT screened projects to advance by paying mobility mitigation fees and, where applicable, contributing to the mobility mitigation fund.

Third, the updated screening criteria functions differently than that in the OPR guidance in that all projects, including those that qualify for screening, excepting active transportation projects, will be required, at a minimum, to mitigate through paying the mobility mitigation fee. This is stricter than OPR guidance which requires no mitigation of VMT by projects below 110 DVTE.

TRPA prohibits or tightly controls development on sensitive lands within the basin and the proposed transportation impact assessment does not include any modifications to those development restrictions.

As a result, this framework, through overall implementation, will garner more mitigation than a screen based on OPR guidance.

STADNDARDS OF SIGNIFICANCE

Standards of significance set a defined level above which a project would have a significant transportation impact, as measured by VMT, and therefore require additional analysis and/or mitigation.

Standards of significance for the proposed system have been determined based on analysis and guidance from OPR, input from stakeholders and the Transportation Technical Advisory Committee, and adapted for the needs of the Tahoe region:

- 15% below the sub-regional average VMT for residential uses, e.g., VMT/Resident for Residential and VMT/Tourist Accommodation Unit, and 15% below the sub-regional average VMT for Public Service projects
- No-net increase in VMT for commercial, recreation and transportation projects[35]
- Other projects will be determined on a case-by-case basis

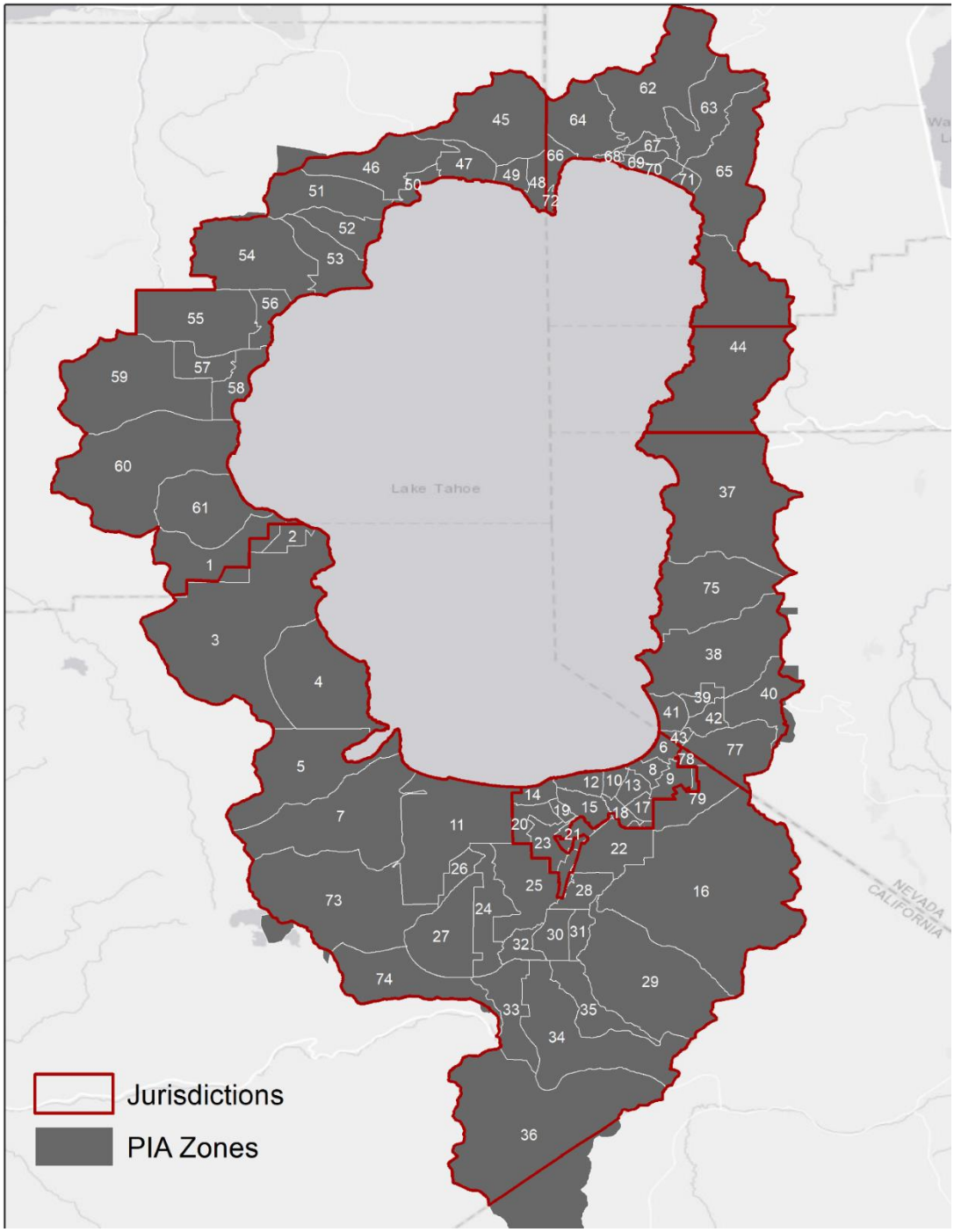
The framework uses sub-regional (i.e., jurisdictional[36]) standards of significance for residential, tourist accommodation uses, and public service uses. These standards of significance are designed to encourage applicants to reduce VMT by locating projects in the most efficient parts of each jurisdiction.

Where a project replaces existing VMT-generating land uses that leads to a net overall decrease in VMT the project will lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the standards of significance apply.

[35] Per the California Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA

[36] Jurisdictions include Carson City, City of South Lake Tahoe, Douglas County, El Dorado County, Placer County, and Washoe County

Appendix C. Project Impact Assessment Zones and Zone VMT Data



PIA Zone	Average Zone Trip Length (miles)	15% Below Subregional Threshold Trip Length	Average Zone VMT per Capita	VMT per Capita Standard of Significance
1	9.147209	11.2200	22.733077	13.108421
2	9.620686	8.5000	20.582705	14.507369
3	11.379330	8.5000	30.412647	14.507369
4	13.896074	8.5000	24.268667	14.507369
5	14.045325	8.5000	25.910000	14.507369
6	4.973109	5.3975	8.098274	9.245352
7	11.135897	8.5000	17.172220	14.507369
8	3.963960	5.3975	9.631206	9.245352
9	4.508066	5.3975	11.947850	9.245352
10	4.505589	5.3975	11.947850	9.245352
11	8.512800	8.5000	17.426000	14.507369
12	4.109098	5.3975	10.314611	9.245352
13	3.670142	5.3975	10.427655	9.245352
14	5.306228	5.3975	13.436351	9.245352
15	3.854683	5.3975	10.763141	9.245352
16	8.126071	8.5000	N/A	14.507369
17	4.009089	5.3975	11.237595	9.245352
18	4.134972	5.3975	N/A	9.245352
19	4.207567	5.3975	10.872098	9.245352
20	3.915110	5.3975	12.359399	9.245352
21	4.416030	5.3975	8.659050	9.248000
22	4.691399	8.5000	12.764564	14.507369
23	4.311894	5.3975	11.329813	9.245352
24	5.982253	8.5000	18.680541	14.507369
25	7.287527	8.5000	14.883889	14.507369
26	11.245714	8.5000	38.783330	14.507369
27	6.375926	8.5000	15.265000	14.507369
28	5.800685	8.5000	17.567025	14.507369
29	N/A	8.5000	N/A	14.507369
30	6.419740	8.5000	17.671097	14.507369
31	6.673611	8.5000	N/A	14.507369
32	4.775074	8.5000	14.926138	14.507369
33	7.195769	8.5000	20.050358	14.507369
34	8.759826	8.5000	23.145385	14.507369
35	N/A	8.5000	N/A	14.507369
36	10.262579	8.5000	23.775000	14.507369
37	9.899230	9.6900	25.556657	13.082358
38	6.527453	9.6900	16.314368	13.082358

PIA Zone	Average Zone Trip Length (miles)	15% Below Subregional Threshold Trip Length	Average Zone VMT per Capita	VMT per Capita Standard of Significance
39	4.834253	9.6900	13.152012	13.082358
40	7.107691	9.6900	16.569628	13.082358
41	4.961290	9.6900	11.435172	13.082358
42	4.777596	9.6900	12.315414	13.082358
43	6.198822	9.6900	4.895556	13.082358
44	12.389061	21.5900	N/A	N/A
45	6.421478	11.2200	15.204223	13.108421
46	6.254043	11.2200	17.991333	13.108421
47	6.460060	11.2200	14.146929	13.108421
48	5.059253	11.2200	14.826546	13.108421
49	5.377442	11.2200	13.567249	13.108421
50	6.787701	11.2200	16.269101	13.108421
51	6.008734	11.2200	16.702742	13.108421
52	6.332382	11.2200	17.544703	13.108421
53	6.345796	11.2200	16.467053	13.108421
54	7.711373	11.2200	15.442566	13.108421
55	7.481919	11.2200	12.144107	13.108421
56	6.698966	11.2200	11.835877	13.108421
57	6.890708	11.2200	20.031092	13.108421
58	6.437527	11.2200	15.015323	13.108421
59	10.216301	11.2200	22.576875	13.108421
60	9.312697	11.2200	21.031045	13.108421
61	9.027076	11.2200	20.855000	13.108421
62	5.543206	10.2000	14.783946	11.015033
63	6.135944	10.2000	14.236810	11.015033
64	4.650144	10.2000	15.482821	11.015033
65	6.567962	10.2000	13.497521	11.015033
66	4.969592	10.2000	17.349500	11.015033
67	5.098907	10.2000	12.238581	11.015033
68	7.255840	10.2000	15.335547	11.015033
69	4.081712	10.2000	9.235790	11.015033
70	6.274938	10.2000	11.643596	11.015033
71	4.786235	10.2000	13.709470	11.015033
72	6.519263	10.2000	16.585660	11.015033
73	10.654079	8.5000	20.332500	14.507369
74	9.213232	8.5000	20.672174	14.507369
75	8.507110	9.6900	20.880415	13.082358
76	N/A	11.2200	N/A	N/A

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PIA Zone	Average Zone Trip Length (miles)	15% Below Subregional Threshold Trip Length	Average Zone VMT per Capita	VMT per Capita Standard of Significance
77	6.374228	9.6900	17.902222	13.082358
78	2.946875	8.5000	11.350000	14.507369
79	5.167914	8500.0000	N/A	14.507369

4.6 ITE TRIP TABLE

Land Use	ITE Code	Variable
Single-Family Detached	210	DU
Multi-Family (low-rise, one or two levels)	220	DU
Senior Adult Housing – Attached	252	DU
Congregate Care Facility (Residential Care)	253	DU
Hotel	310	Units
Motel	320	Units
Timeshare	265	Units
General retail	820	KSF
Furniture Store	890	KSF
Pharmacy/Drugstore	880	KSF
Supermarket	850	KSF
Drive-In Bank	912	KSF
High Turnover Sit-Down Restaurant (<1 hr. turnover)	932	KSF
Fast Food Restaurant	933	KSF
Quality Restaurant (>1 hr. turnover)	931	KSF
Drinking Place	925	KSF
Auto Parts and Service Center	943	KSF
Building Materials/Lumber	812	KSF
Free-Standing Discount Store	815	KSF
General Office Building (GFA of more than 5,000 sf)	710	KSF
Medical –Dental Office Building	720	KSF
Light industrial	110	KSF
Warehouse	151	KSF
Public Park	411	Acres
Developed Campground/RV Park	416	Sites
Marina	420	Berths
Golf Course	430	Holes
Bowling Alley	437	Bowling Lanes
Movie Theater (traditional)	444	Movie Screens
Health and Fitness Club	492	KSF
Recreational Community Center	495	KSF

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Land Use	ITE Code	Variable
University/College	550	Students
High School	530	Students
Middle School/Junior High School	522	Students
Elementary School	520	Students
Private School (K-12)	536	Students
Church	560	KSF
Daycare Center	565	KSF
Library	590	KSF
Hospital	610	KSF

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Appendix D. Summary of Recommended Mitigation Strategies

TRPA recommends the use of six mitigation strategies, which are identified in the California Air Pollution Control Officers' Association (CAPCOA) document, *Quantifying Greenhouse Gas Mitigation Strategies* (August 2019):

- Unbundle parking costs from property cost (CAPCOA Code PDT-2)
- Implement a voluntary commuter trip reduction program (CAPCOA Code TRT-1)
- Implement a required commuter trip reduction program (CAPCOA Code TRT-2)
- End of trip facilities (CAPCOA Code TRT-5)
- Employee or private shuttle (CAPCOA Code TRT-11)
- Traffic calming (CAPCOA Code SDT-2)

Each of these strategies is described in further detail below:

CAPCOA Code **PDT-2**	**Unbundle Parking Costs from Property Cost**

Focus – Parking

Description – Parking will be priced separately from home rent or purchase prices or office leases. Those who wish to purchase parking spaces must do so at an additional cost, distinct from the property costs. This removes the burden of parking costs from those who do not wish to use a parking space.

Applicability – Appropriate for residential projects and mixed-use projects with residential uses.

Sample Requirements

(1) **Unbundled Costs.** *For the life of the project,* parking shall be priced separately from home rent or office leases. Parking shall be priced greater than $220 per month per parking space and paid by vehicle owners or drivers.

OR

Unbundled Costs. Parking shall be priced separately from home purchase prices. Parking shall be priced greater than $35,000 per parking space and paid by vehicle owners or drivers.

(2) **Deed Restriction.** *Prior to acknowledgement*, the applicant shall demonstrate to TRPA that a deed restriction has been recorded on the property's title. The deed restriction shall specify that parking costs be unbundled from property costs on all rent or lease agreements in perpetuity.

(3) **Certification.** *Prior to final inspections,* the applicant shall certify that all applicable lease or purchase agreements comply with the requirement for unbundling parking and property costs.

(4) **Annual recertification.** *Each year by July 1,* the applicant shall certify to TRPA that all rental or lease agreements comply with the requirement for unbundling parking and property costs.

Maximum Reduction – 2.6%

CAPCOA Code **TRT-1**	**Implement a Voluntary Commute Trip Reduction (CTR) Program**

Description – An applicant will develop and implement a voluntary program to encourage reduction of commuter trips. CTR would entail identifying specific measures that would reduce commute trips. The program would also address what steps are to be taken to implement those measures. CTR programs are subject to TRPA approval. Program implementation would be ongoing for the life of the project.

Applicability – Appropriate for commercial, public service, recreation, tourist accommodation, and mixed-use projects with those uses. Cannot be used in concert with Measure TRT-2 (required CTR).

Sample Requirements

(1) **Commuter Trip Reduction Program.** *For the life of the project,* the applicant shall implement a voluntary comprehensive commuter trip reduction program. At a minimum, the trip reduction program shall include all of the following measures:
   a. Carpooling encouragement
   b. Ride-matching assistance
   c. Preferential carpool parking
   d. Flexible work schedules for carpools or transit users
   e. Half-time transportation coordinator[37]
   f. Vanpool assistance
   g. Bicycle trip end facilities (e.g., parking, showers, and lockers)

(2) **CTR Measures.** *Prior to permit acknowledgement,* the applicant shall identify the proposed CTR measures and submit the list to TRPA's Transportation Planning division for review and approval. The measures may be modified from time-to-time, subject to TRPA approval.

(3) **Project Plans.** *Prior to permit acknowledgement,* all structural measures (e.g., preferential parking signage, end of trip facilities, etc.) identified in the approved monitoring and reporting program shall be shown on the project plans.

(4) **Implementation.** *Prior to final inspections,* the applicant shall implement the CTR program. The inspector will verify the presence of any structural measures.

(5) **Annual recertification.** *Each year by July 1*, the applicant shall certify to TRPA that all components of the approved CTR program are being implemented. The applicant shall also report on the percentage of employees who are eligible for applicable program measures (e.g., flexible work schedules).

[37] TRPA may approve a transportation coordinator to be less than half-time for projects with fewer than 25 employees.

Maximum Reduction – 5.0%

CAPCOA Code **TRT-2**	**Implement a Required Commuter Trip Reduction (CTR) Program**

Focus – Commute trips

Description – An applicant will develop and implement a required program to reduce commuter trips. A required CTR differs from a voluntary CTR program in that the employer commits that a specific fraction of employees will participate in the program. Additionally, monitoring and reporting requirements are more substantial.

CTR would entail identifying specific measures that would reduce commute trips. The program would also address what steps are to be taken to implement those measures. CTR programs are subject to TRPA approval. Program implementation would be ongoing for the life of the project.

Applicability – Appropriate for commercial, public service, recreation, tourist accommodation, and mixed-use projects with those uses. Cannot be used in concert with Measure TRT-1 (voluntary CTR).

Sample Requirements

(1) **Commuter Trip Reduction Program.** *For the life of the project,* the applicant shall implement a comprehensive commuter trip reduction program. A minimum of _____ percent of employees shall participate in the program. At a minimum, the trip reduction program shall include all of the following measures:
    a. Carpooling encouragement
    b. Ride-matching assistance
    c. Preferential carpool parking
    d. Flexible work schedules for carpools or transit users
    e. Half-time transportation coordinator[38]
    f. Vanpool assistance
    g. Bicycle trip end facilities (e.g., parking, showers, and lockers)

(2) **Monitoring and Reporting Program.** *Prior to permit acknowledgement,* the applicant shall develop a CTR monitoring and reporting program and submit the program to TRPA's Transportation Planning division for review and approval. The program must identify the measures to be implemented and include provisions for monitoring and reporting, which shall include:
    a. Identifying specific metrics to evaluate program success;
    b. Describing data collection procedures; and
    c. Providing a schedule for reporting to TRPA.

    The CTR monitoring and reporting program may be modified from time-to-time, subject to TRPA approval.

[38] TRPA may approve a transportation coordinator to be less than half-time for projects with fewer than 25 employees.

(3) **Project Plans.** *Prior to permit acknowledgement,* all structural measures (e.g., preferential parking signage, end of trip facilities, etc.) identified in the approved monitoring and reporting program shall be shown on the project plans.

(4) **Implementation.** *Prior to final inspections,* the applicant shall implement the CTR program. The inspector will verify the presence of any structural measures.

(5) **Annual recertification.** *Each year by July 1*, the applicant shall certify to TRPA that all components of the approved CTR program are being implemented. The applicant shall also report on the percentage of employees who are eligible for applicable program measures (e.g., flexible work schedules).

Maximum Reduction – 21.0%

CAPCOA Code **TRT-5**	**End of Trip Facilities**

Focus – Commute trips

Description – The applicant will construct facilities for the use of bicycle commuters. These facilities would include showers, secure bicycle lockers, and changing spaces.

Applicability – Appropriate for commercial, public service, recreation, tourist accommodation, and mixed-use projects with those uses.

Sample Requirements

(1) **End of trip facilities.** The applicant shall provide the following end of trip facilities for the employees' or residents' use:
   a. Showers[39]
   b. Secure bicycle parking[40] for a minimum of five percent of employees/residents
   c. Changing areas[41]

   All such facilities shall be maintained in a functional condition for the life of the project.

[39] May be waived by TRPA for projects with fewer than 25 employees. A minimum of one shower is required for up to 200 employees. Employers of 200 or more persons shall provide four showers, with an additional two showers for every additional 500 employees.

[40] Secure bicycle parking means either a Class I bicycle parking facility with a locking door ("bike locker") or a fenced, covered area with Class II stationary bike racks and a locked gate.

[41] Changing areas must include a minimum of 10 lockers for employers of up to 200 persons. An additional 10 lockers is required for employers of more than 200 persons, with an additional 10 lockers for every 500 employees thereafter.

(2) **Project plans.** *Prior to permit acknowledgement,* the applicant shall include all designated end of trip facilities on the project plans.

(3) **Construction/installation.** *Prior to final inspections*, all required facilities shall be constructed and/or installed.

Maximum Reduction – 0.63%

CAPCOA Code **TRT-11**	**Employee or Shuttle**

Focus – Commute trips and transit

Description – The applicant will establish a shuttle service or participate in expanding service of an existing shuttle. The shuttle will serve the employees of the project. An employee shuttle would focus on worker commutes. A private shuttle would focus on connecting to transit service and commercial centers. The program may also take the form of a vanpool service, in which an employer purchases vans for the use of groups of seven or more employees and subsidizes, at a minimum, administrative costs.

Applicability

- *Employee shuttle/vanpool:* Appropriate for office, industrial, and mixed-use projects comprised of those uses.

Sample Requirements

(1) **Shuttle service.** *For the life of the project*, the applicant and successors in interest shall provide a shuttle service. The service shall have a minimum capacity of seven percent of the service population[42].

(2) **Plan for service.** *Prior to acknowledgement*, the applicant shall develop a plan for the new employee or private shuttle service, or expansion of existing service, and submit it to TRPA's Transportation Planning Division for review and approval.

(3) **Establishment of service.** *Prior to final inspections,* the applicant shall establish the shuttle service in accordance with the approved plans.

(4) **Annual recertification.** *Each year by July 1*, the applicant shall certify to TRPA that they are continuing to operate the shuttle service in accordance with the approved plans. The applicant shall also report on shuttle service capacity and employee eligibility.

Maximum Reduction – 4.5%

[42] The service population consists of the employees, residents, and guests of a development project.

CAPCOA Code **SDT-2**	**Traffic Calming**

Focus – Complete streets

Description – The applicant will install measures to help calm the vehicular traffic on streets. This makes the street more friendly for pedestrian and bicycle traffic. A minimum of one traffic calming measure is required.

Applicability – Appropriate for all types of projects.

Sample Requirements

(1) **Traffic calming measures.** The applicant shall construct/install a minimum of one of the following traffic calming measures, which shall be maintained for the life of the project:
   a. A marked crosswalk
   b. Count-down signal timers for an intersection or mid-block crossing
   c. A speed table or raised crosswalk
   d. A raised intersection
   e. Using a tight corner radius on at least one corner
   f. Narrowing the traffic lanes by installing curb extensions, median islands, on-street parking, planter strips with street trees, or chicanes/chokers.

(2) **Approvals.** *Prior to permit approval*, the applicant shall apply for all necessary approvals from the city, county, Caltrans, or NDOT for the identified traffic calming measures. Such approvals shall be obtained *prior to permit acknowledgement.*

(3) **Plans.** *Prior to permit acknowledgement*, the applicant shall identify all applicable approved traffic calming measures on the project plans.

(4) **Construction/installation.** *Prior to final inspections*, the applicant shall construct or install the approved traffic calming measures.

Maximum Reduction – 1%

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Appendix E. Contact Information

Primary Contact:

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Transportation Planning Division

Tahoe Regional Planning Agency

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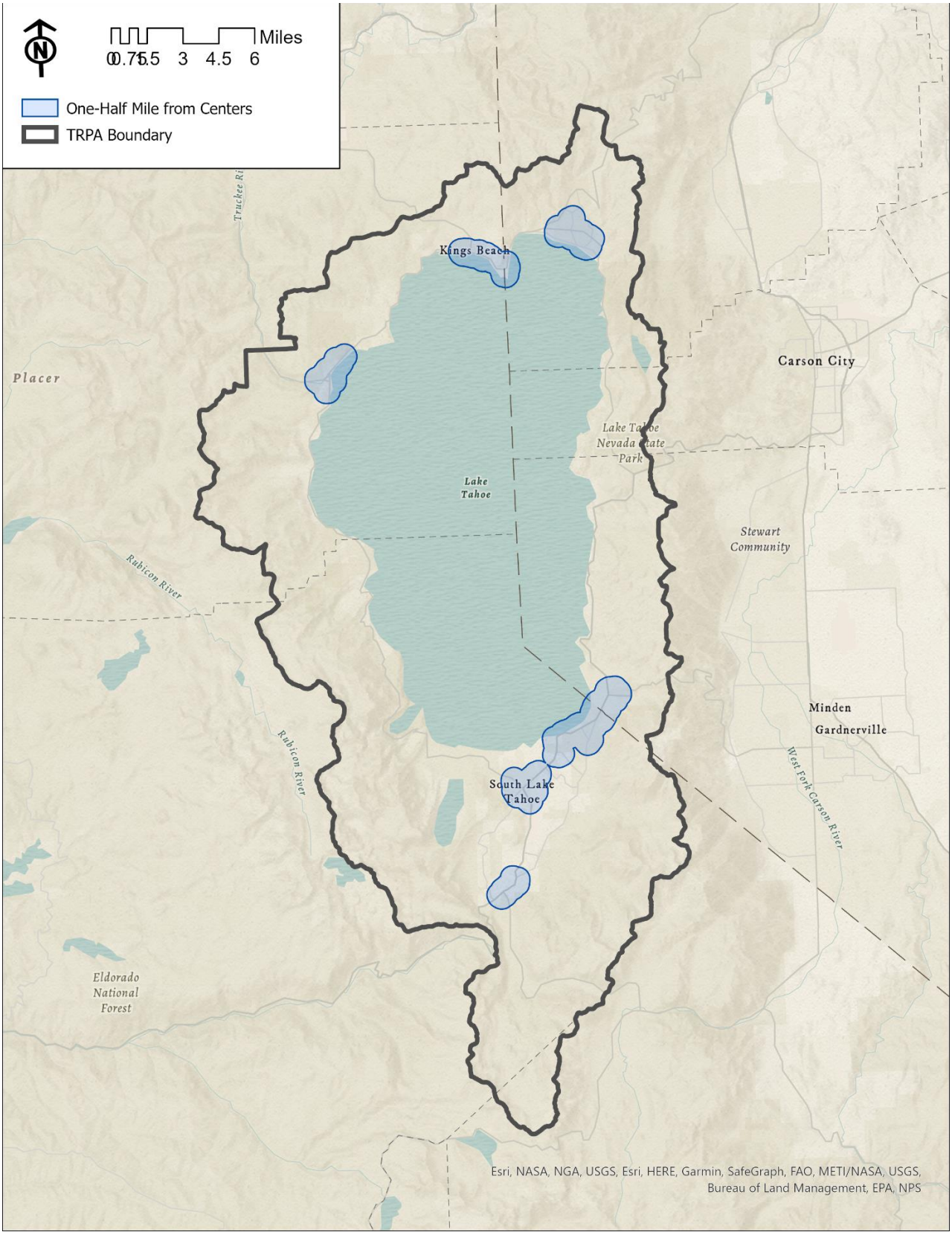
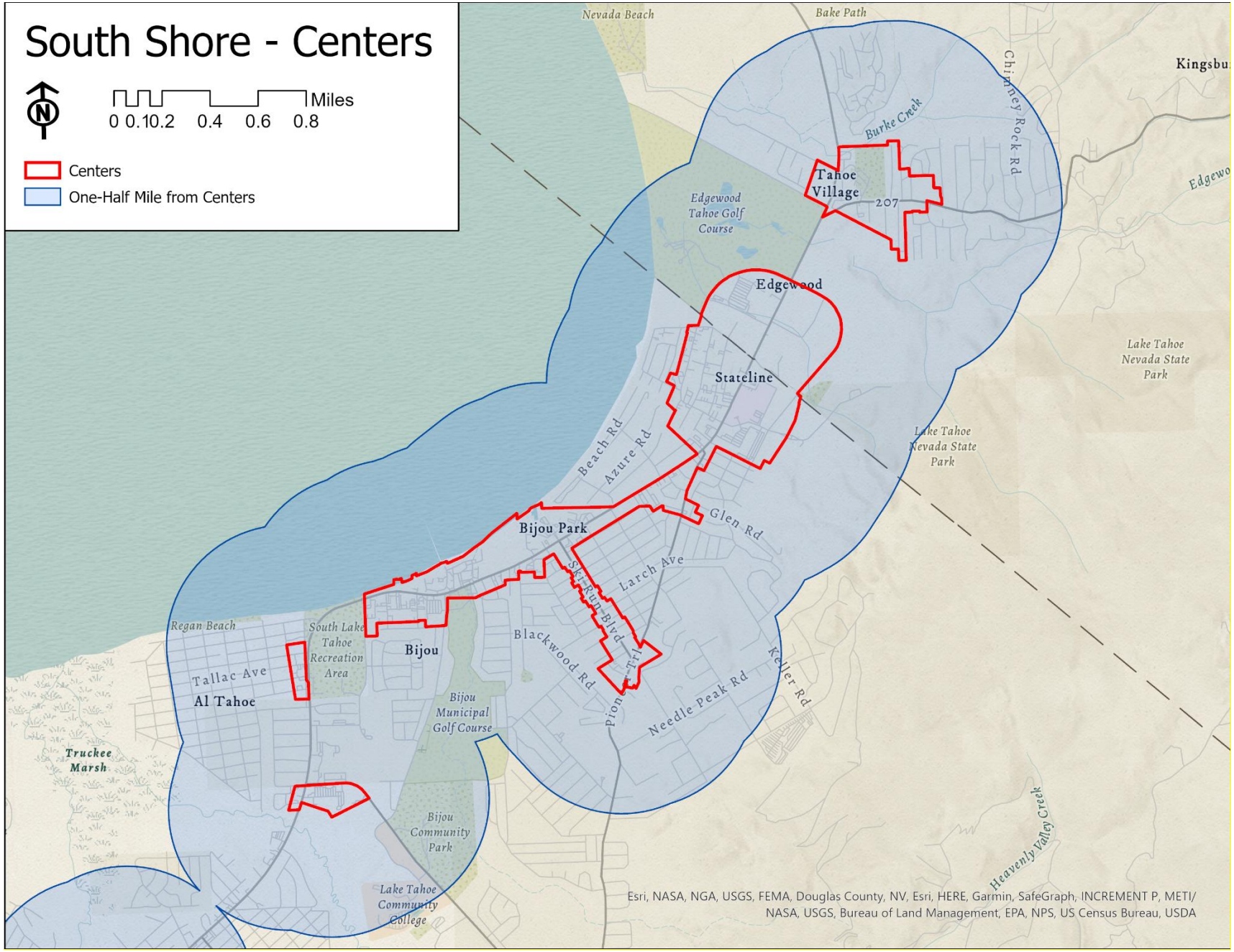
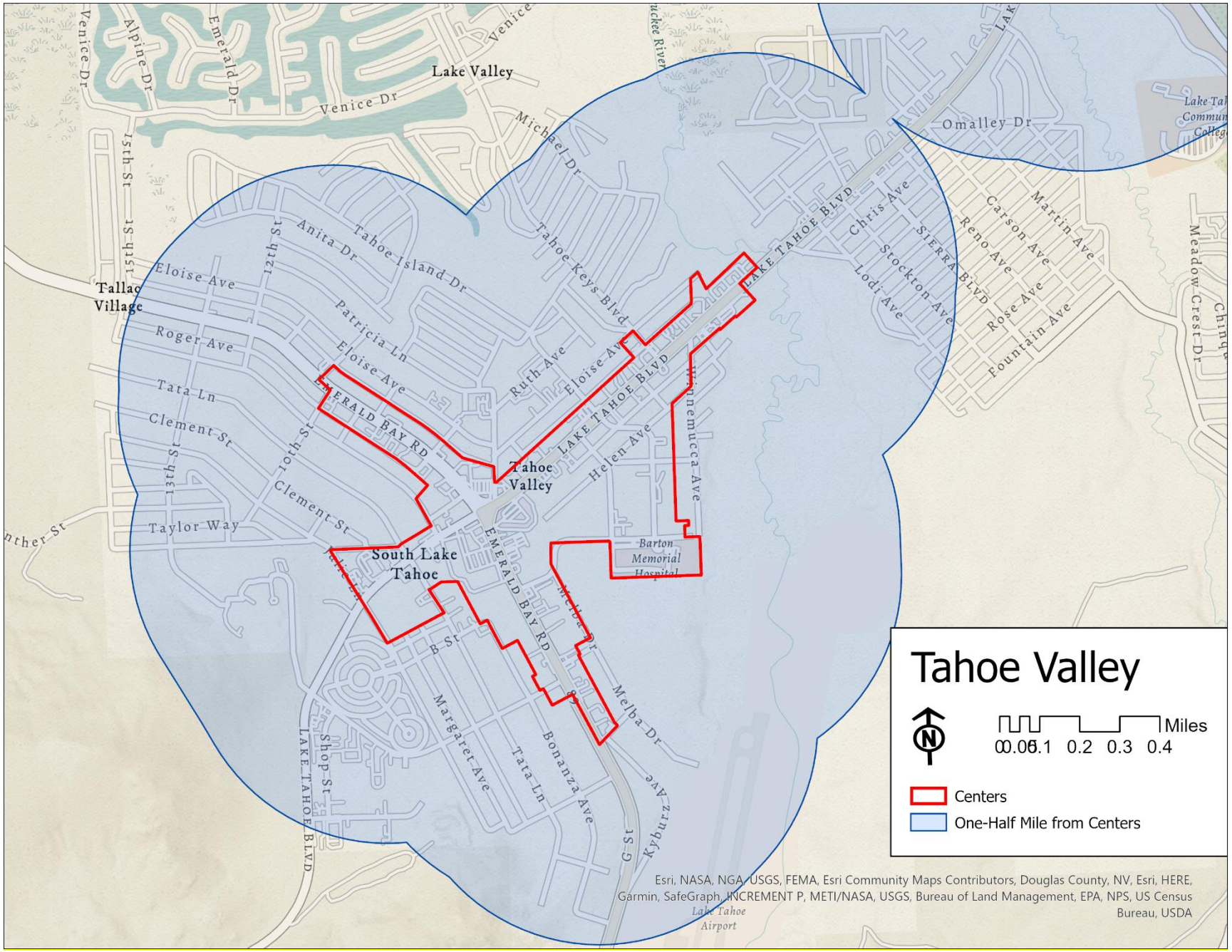
Appendix F. Low-VMT Screening Maps




South Shore - Centers
Miles
0 0.1 0.2 0.4 0.6 0.8
Centers
One-Half Mile from Centers
Nevada Beach
Bake Path
Kingsbu
Chimney Rock Rd
Burke Creek
Tahoe Village
207
Edgewo
Edgewood Tahoe Golf Course
Edgewood
Stateline
Lake Tahoe Nevada State Park
Lake Tahoe Nevada State Park
Beach Rd
Azure Rd
Glen Rd
Bijou Park
Larch Ave
Ski Run Blvd
Regan Beach
South Lake Tahoe Recreation Area
Bijou
Blackwood Rd
Tallac Ave
Al Tahoe
Bijou Municipal Golf Course
Needle Peak Rd
Keller Rd
Truckee Marsh
Bijou Community Park
Heavenly Valley Creek
Lake Tahoe Community College
Esri, NASA, NGA, USGS, FEMA, Douglas County, NV, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/
NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA


Tahoe Valley
Miles
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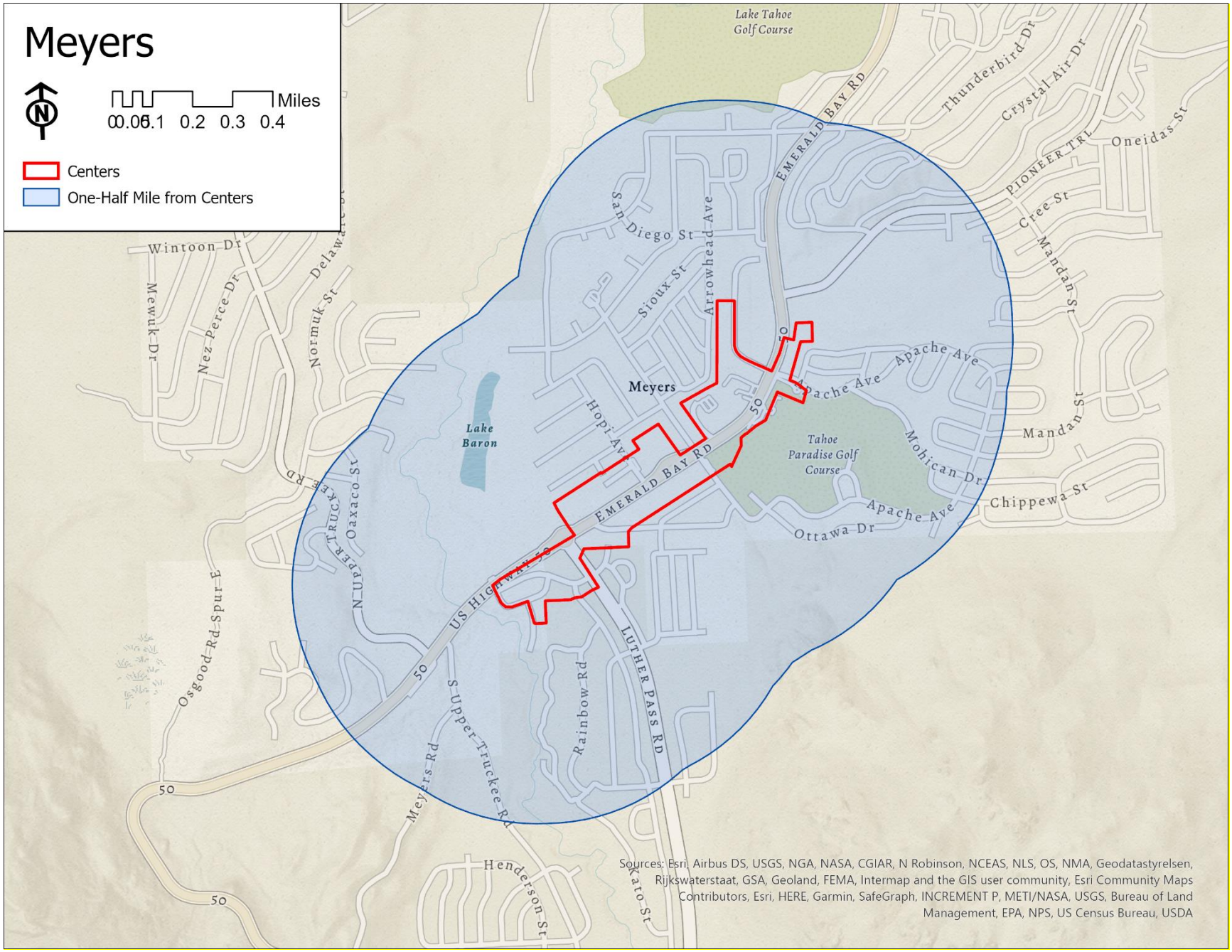
Centers
One-Half Mile from Centers
Lake Valley
Tallac Village
Tahoe Valley
South Lake Tahoe
Barton Memorial Hospital
Lake Tahoe Airport
Venice Dr
Alpine Dr
Emerald Dr
15th St
Michael Dr
Tahoe Island Dr
Tahoe Keys Blvd
Anita Dr
12th St
Eloise Ave
Roger Ave
Patricia Ln
Tata Ln
Clement St
13th St
10th St
Taylor Way
EMERALD BAY RD
LAKE TAHOE BLVD
Ruth Ave
Helen Ave
Winnemucca Ave
Omalley Dr
Chris Ave
Stockton Ave
Lodi Ave
SIERRA BLVD
Reno Ave
Carson Ave
Martin Ave
Rose Ave
Fountain Ave
Meadow Crest Dr
B St
Margaret Ave
Bonanza Ave
Melba Dr
G St
Zurupax Ave
Shop St
Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Douglas County, NV, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA



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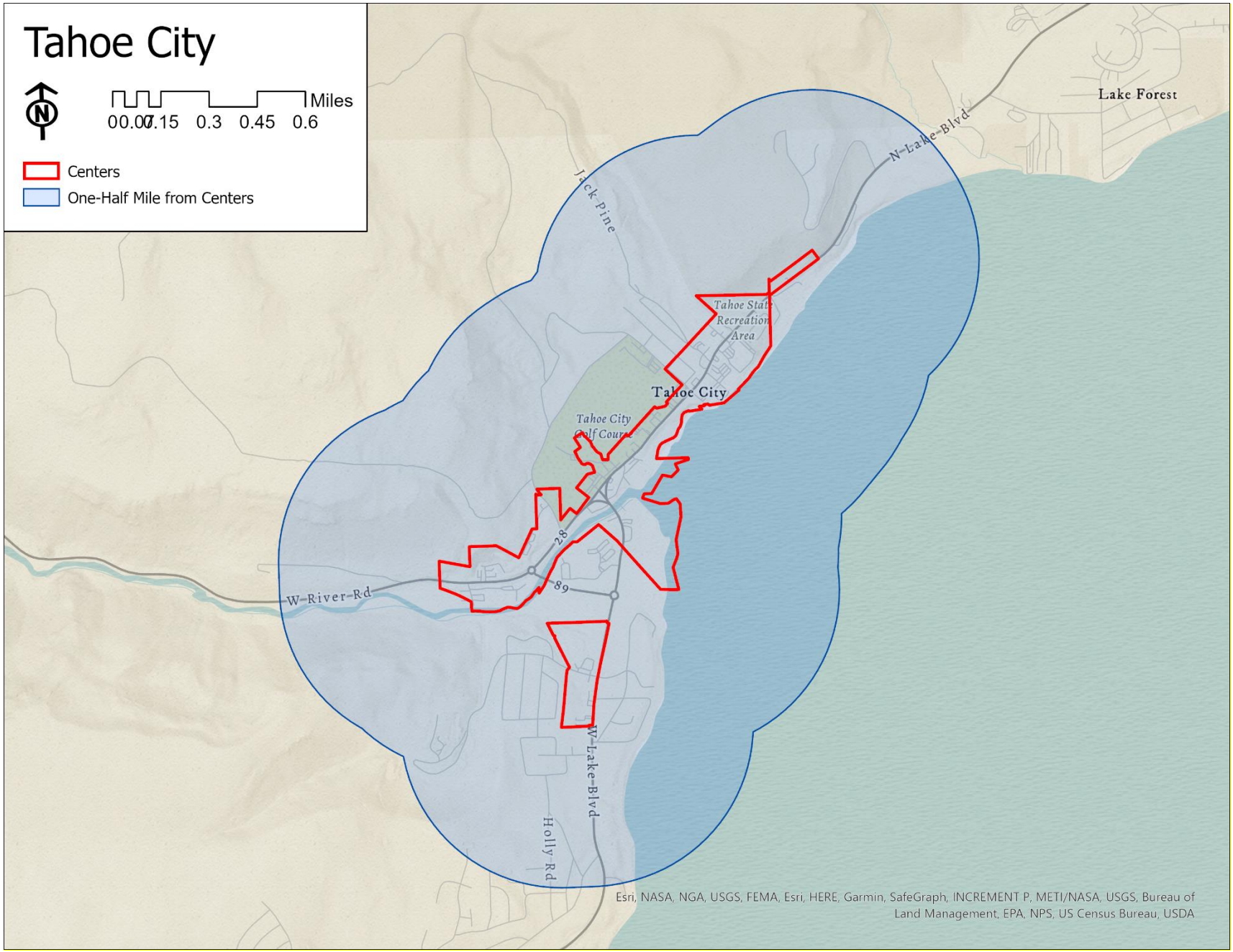
Tahoe City
Miles
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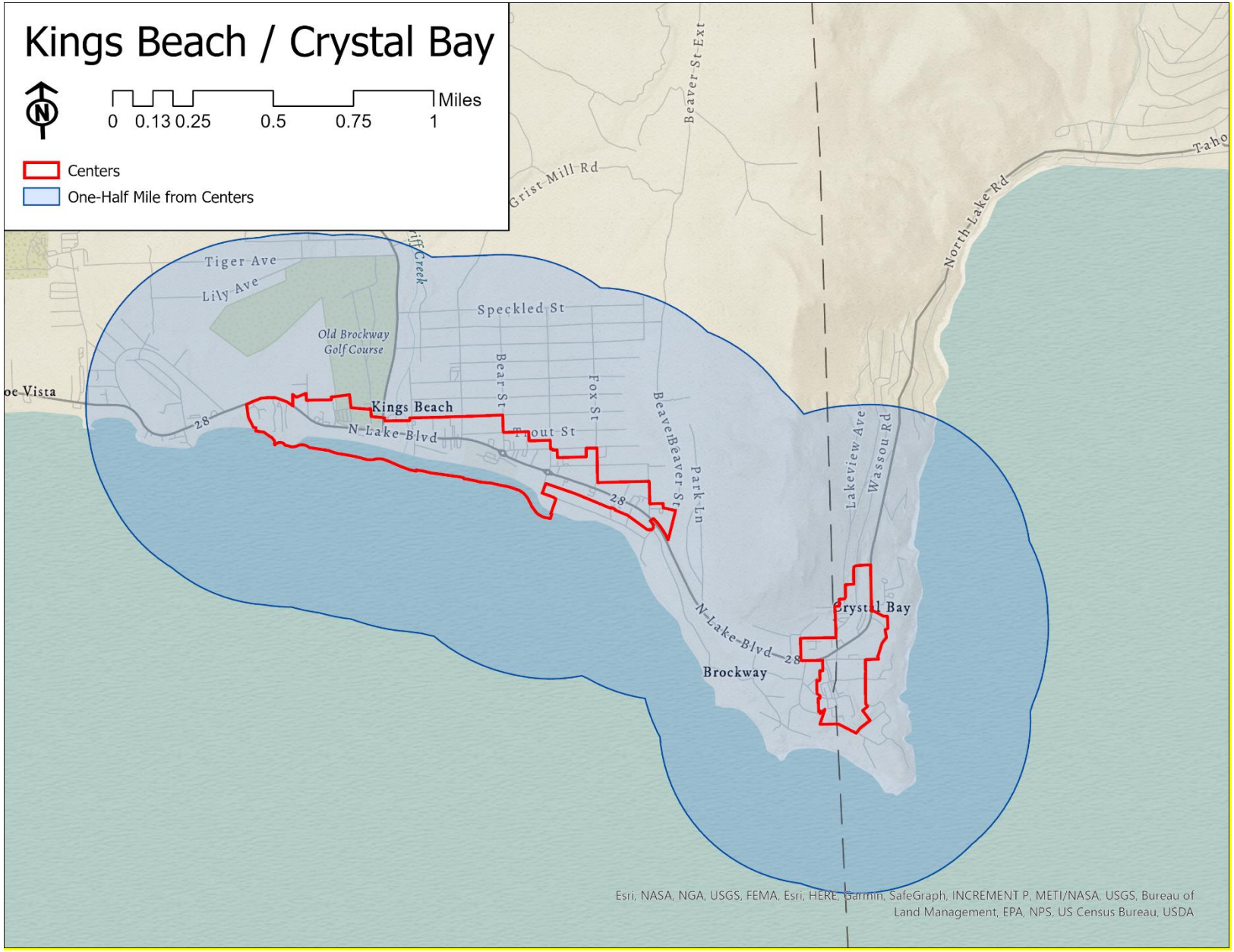
Centers
One-Half Mile from Centers
Lake Forest
N Lake Blvd
Jack Pine
Tahoe State Recreation Area
Tahoe City
Tahoe City Golf Course
28
89
W River Rd
W Lake Blvd
Holly Rd
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA


Kings Beach / Crystal Bay
Miles
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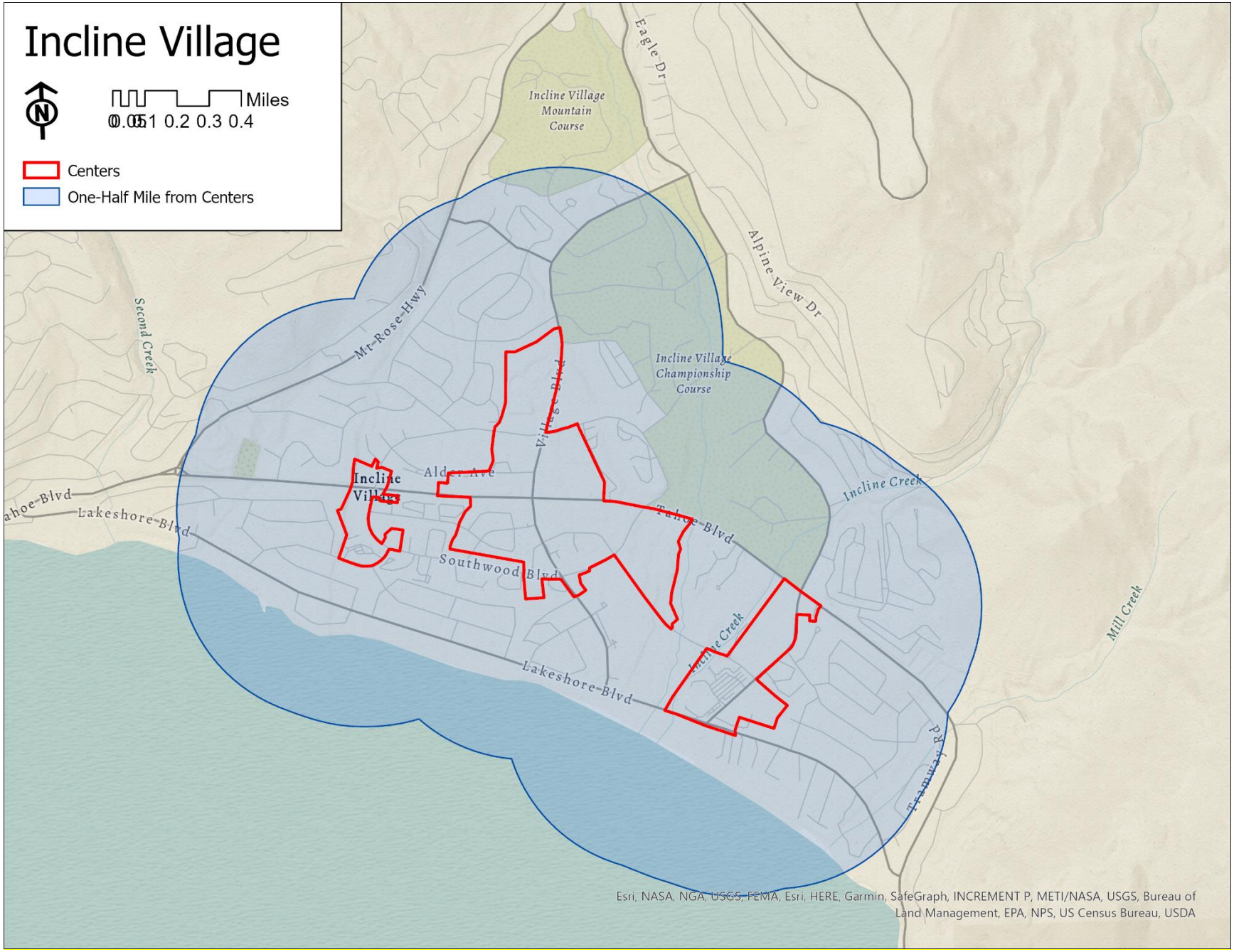
Centers
One-Half Mile from Centers
Grist Mill Rd
Beaver St Ext
North Lake Rd
Tiger Ave
Lily Ave
Old Brockway Golf Course
Speckled St
Bear St
Fox St
Beaver St
Park Ln
Kings Beach
N Lake Blvd
Trout St
28
Lakeview Ave
Wassou Rd
Crystal Bay
Brockway
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA



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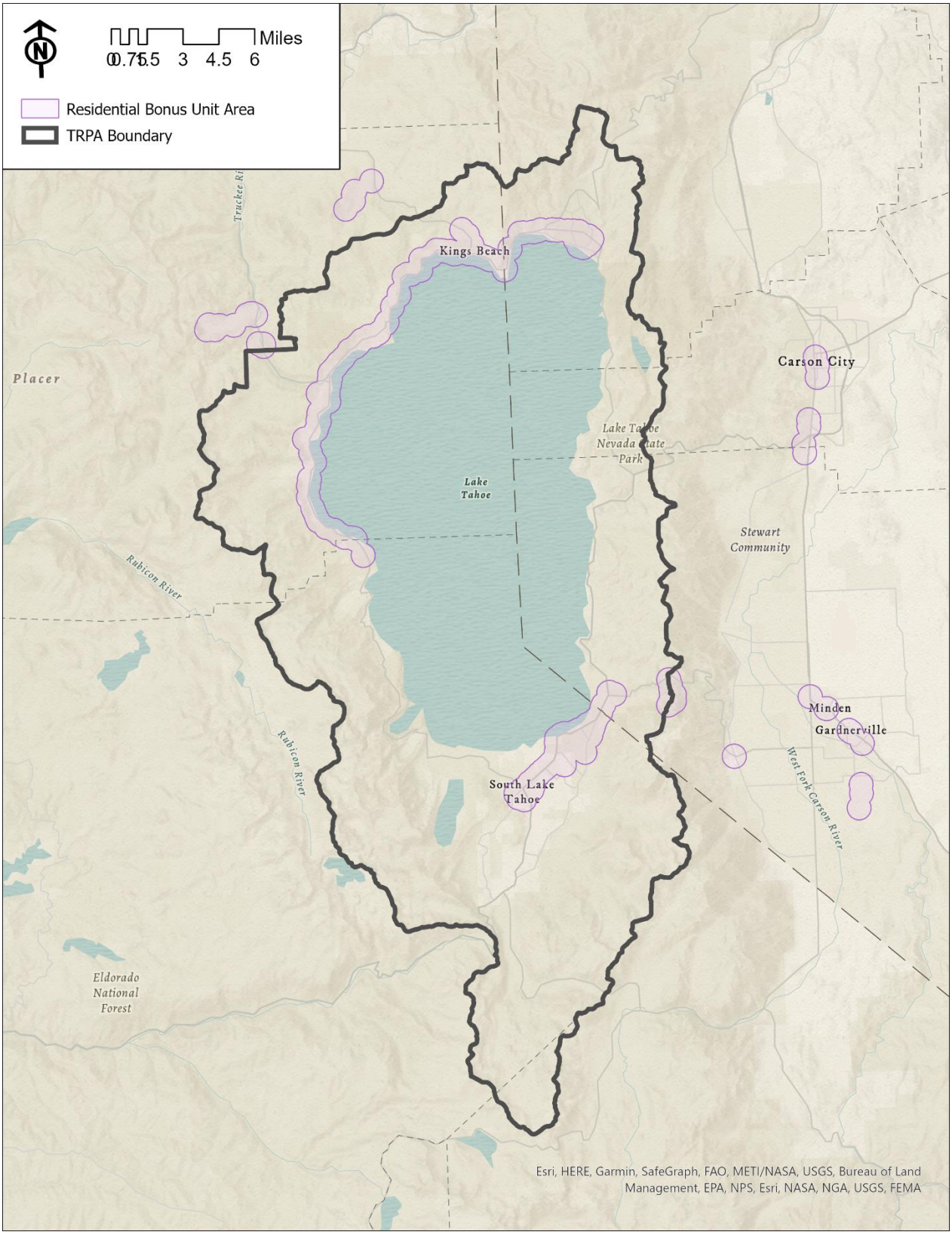
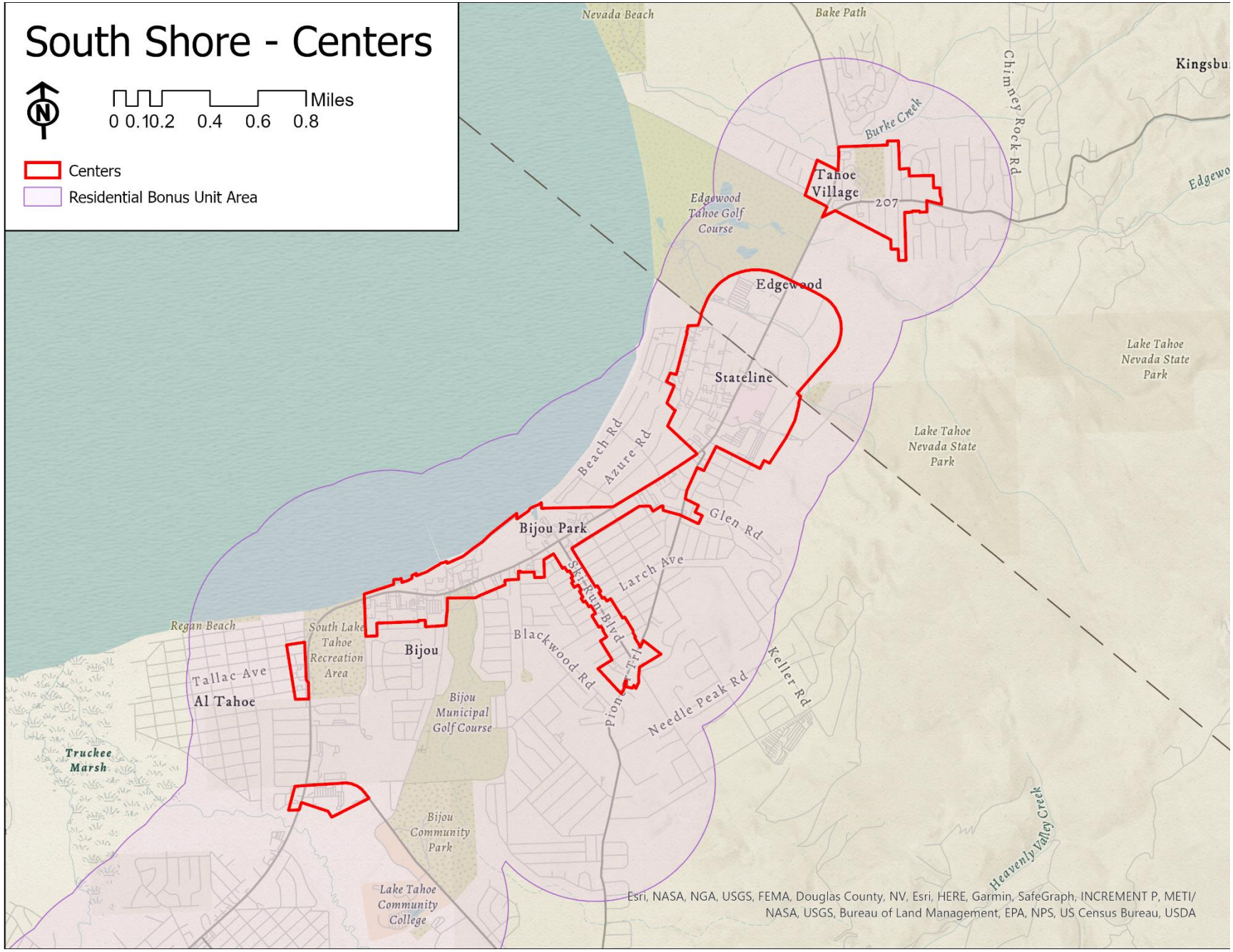
Appendix G. Residential Bonus Unit Eligibility Maps




South Shore - Centers
Miles
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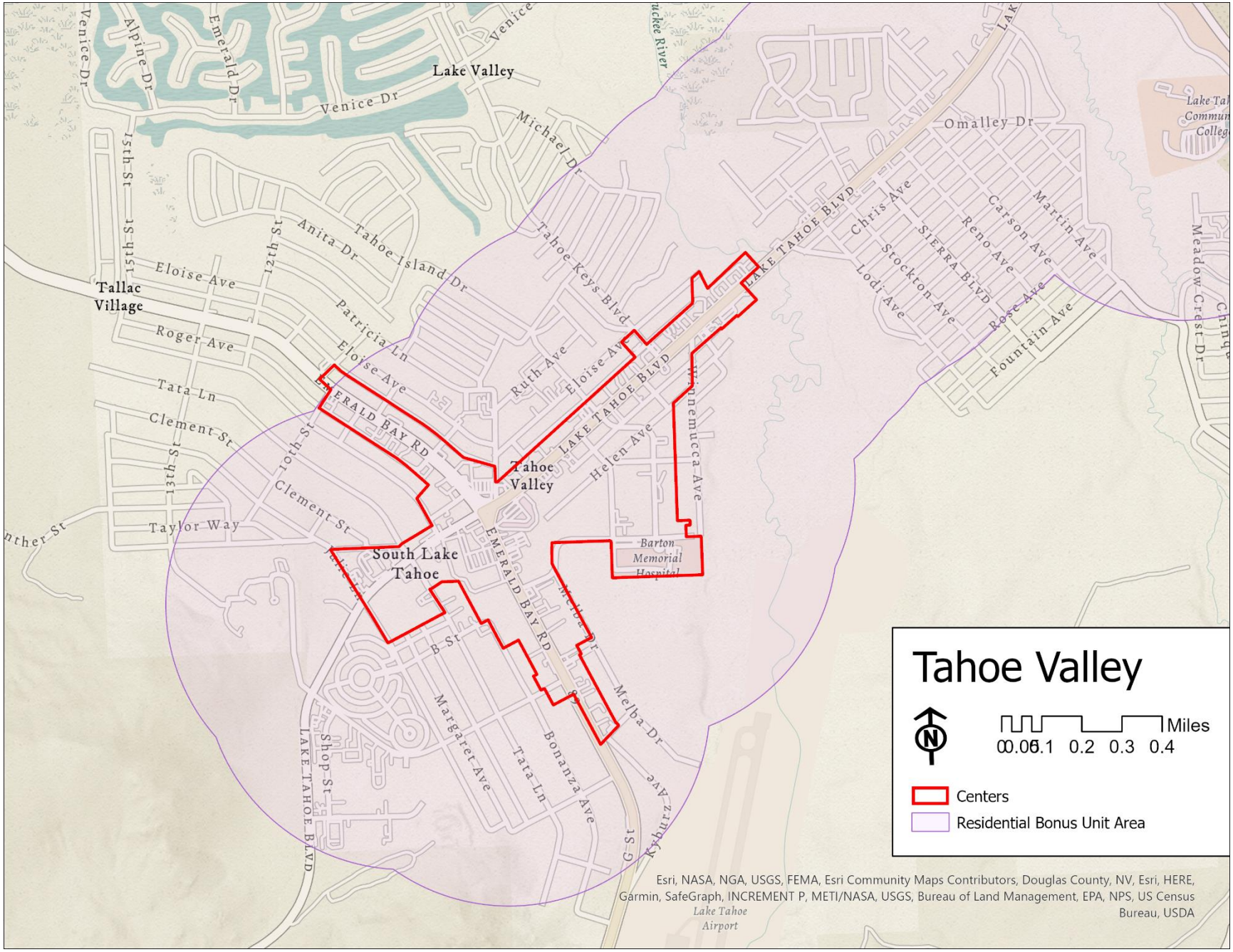
Centers
Residential Bonus Unit Area
Nevada Beach
Bake Path
Kingsbu
Chimney Rock Rd
Burke Creek
Tahoe Village
207
Edgewo
Edgewood Tahoe Golf Course
Edgewood
Stateline
Lake Tahoe Nevada State Park
Lake Tahoe Nevada State Park
Beach Rd
Azure Rd
Glen Rd
Bijou Park
Larch Ave
Ski Run Blvd
Regan Beach
South Lake Tahoe Recreation Area
Bijou
Blackwood Rd
Pioneer Trl
Needle Peak Rd
Keller Rd
Tallac Ave
Al Tahoe
Bijou Municipal Golf Course
Truckee Marsh
Bijou Community Park
Lake Tahoe Community College
Heavenly Valley Creek
Esri, NASA, NGA, USGS, FEMA, Douglas County, NV, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA


Tahoe Valley
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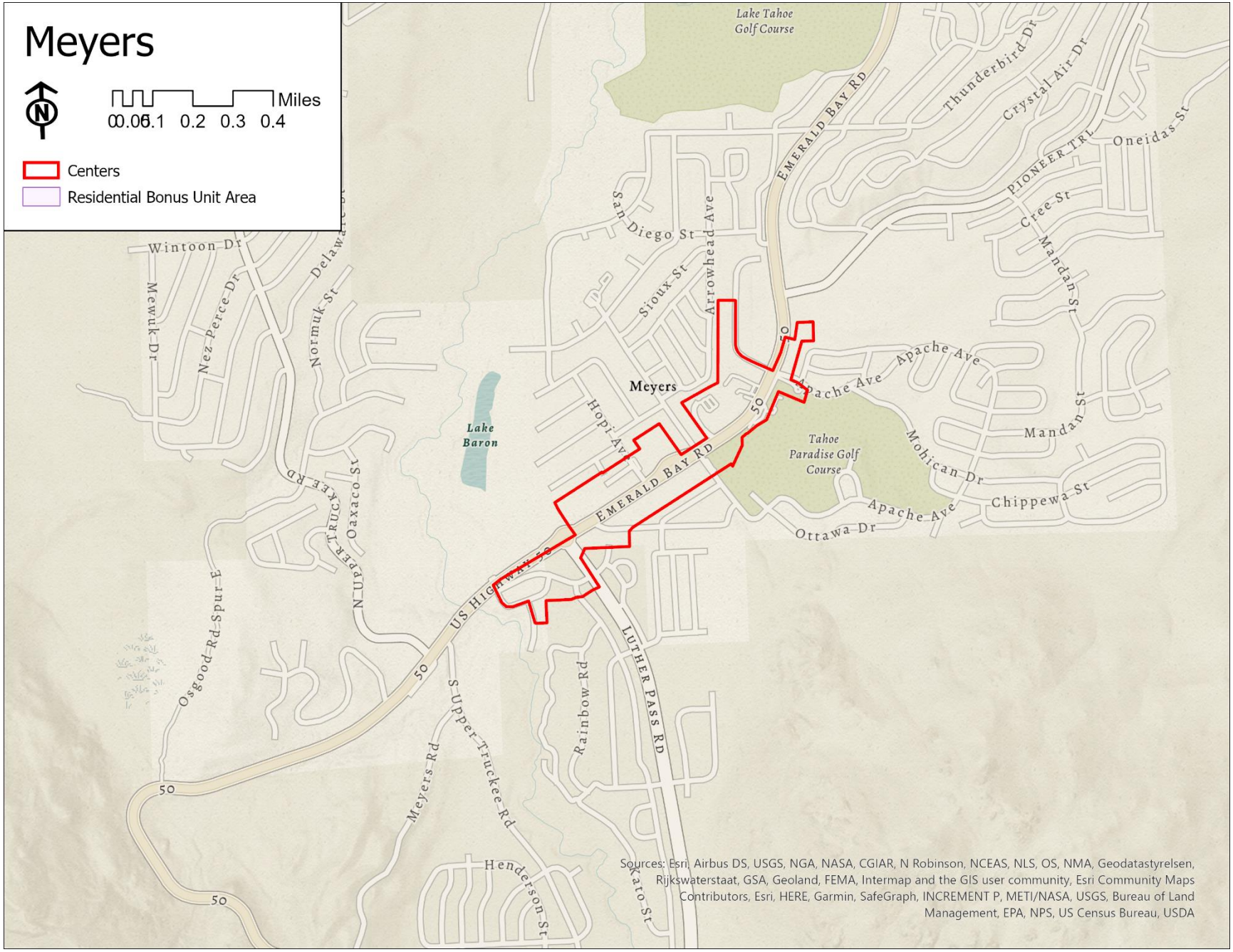
Centers
Residential Bonus Unit Area
Lake Valley
Tallac Village
Tahoe Valley
South Lake Tahoe
Barton Memorial Hospital
Lake Tahoe Airport
Venice Dr
Alpine Dr
Emerald Dr
Michael Dr
15th St
14th St
12th St
10th St
13th St
Anita Dr
Tahoe Island Dr
Eloise Ave
Roger Ave
Tata Ln
Clement St
Taylor Way
Patricia Ln
Tahoe Keys Blvd
Ruth Ave
EMERALD BAY RD
LAKE TAHOE BLVD
Helen Ave
Winnemucca Ave
Omalley Dr
Chris Ave
Stockton Ave
Lodi Ave
SIERRA BLVD
Reno Ave
Carson Ave
Martin Ave
Rose Ave
Fountain Ave
Meadow Crest Dr
B St
Margaret Ave
Bonanza Ave
Melba Dr
Kyburz Ave
G St
Shop St
Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Douglas County, NV, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA



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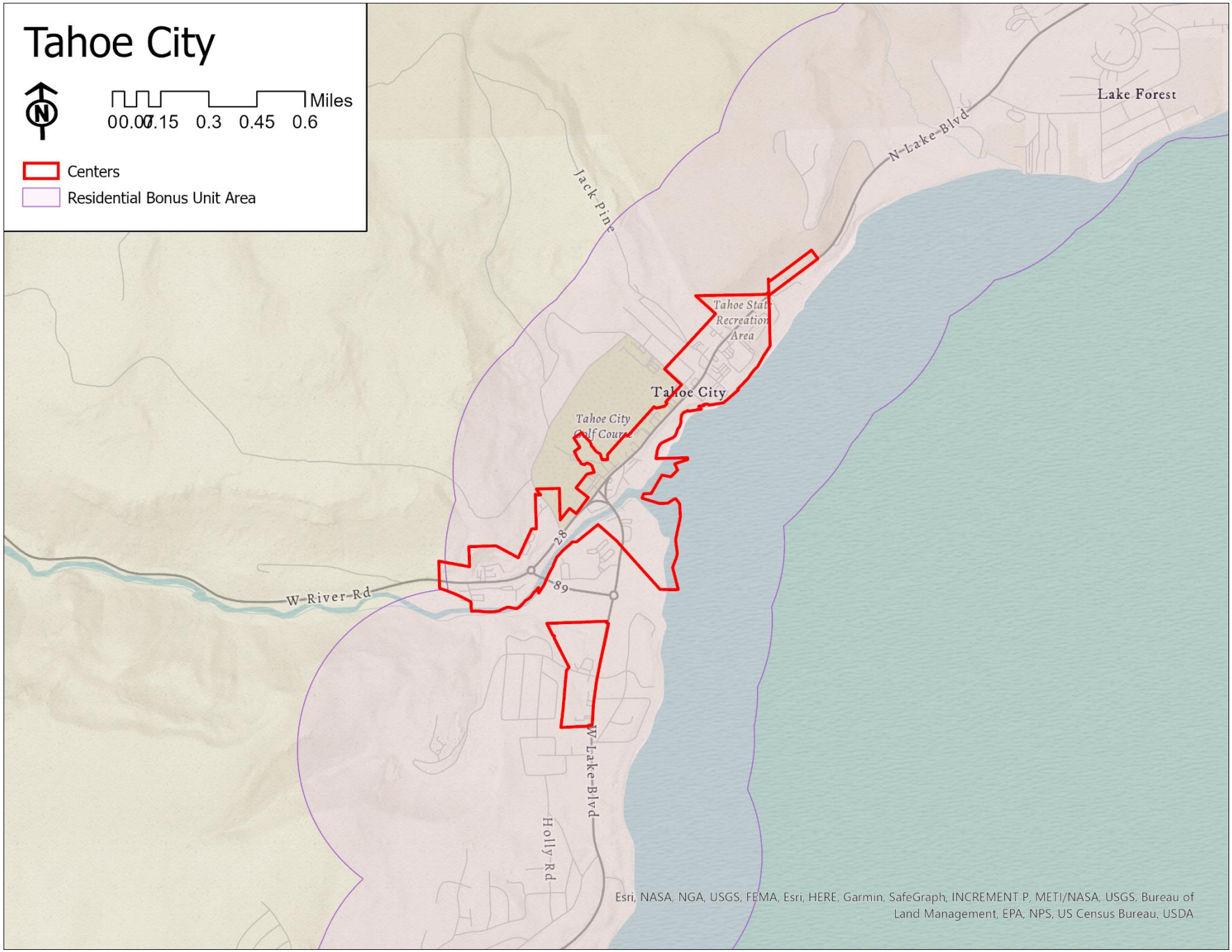
Tahoe City
Miles
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Centers
Residential Bonus Unit Area
Lake Forest
N Lake Blvd
Jack Pine
Tahoe State Recreation Area
Tahoe City
Tahoe City Golf Course
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W River Rd
W Lake Blvd
Holly Rd
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

Kings Beach / Crystal Bay
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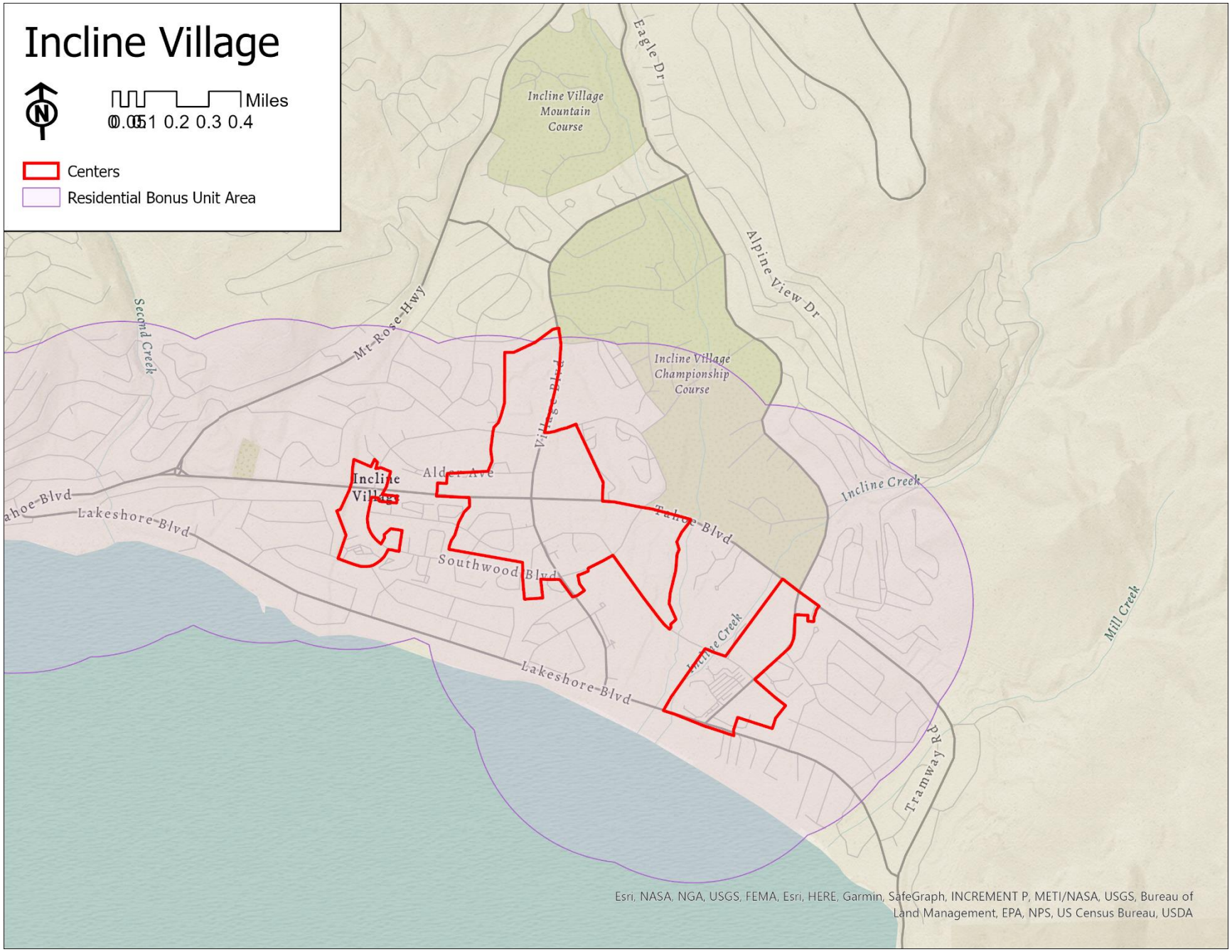
Centers
Residential Bonus Unit Area
Tiger Ave
Lily Ave
Old Brockway Golf Course
Speckled St
Bear St
Fox St
Trout St
Kings Beach
N Lake Blvd
28
Beaver St
Beaver St Ext
Grist Mill Rd
Park Ln
Lakeview Ave
Wasson Rd
North Lake Rd
Brockway
Crystal Bay
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA


Incline Village
Miles
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Centers
Residential Bonus Unit Area
Incline Village Mountain Course
Eagle Dr
Alpine View Dr
Incline Village Championship Course
Mt Rose Hwy
Second Creek
Village Blvd
Incline Village
Alder Ave
Lakeshore Blvd
Tahoe Blvd
Southwood Blvd
Incline Creek
Mill Creek
Tramway Rd
Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA