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Measuring Multimodal Equity in Resource-Challenged MPOs

Christopher E. Ferrell, PhD   David B. Reinke, MRP, MS   John M. Eells, MCP

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Christopher E. Ferrell, PhD

David B. Reinke, MRP, MS

John M. Eells, MCP

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16. Abstract
Ensuring transportation investments are equitable across different populations and travel modes is a priority for many agencies, yet existing tools often make these assessments difficult, especially for smaller and resource-constrained organizations. To address this gap, this report provides the findings of Phase II of our study on reviewing and developing transportation equity metrics. The Phase I project investigated transit equity metrics and provided recommendations on advancements in quantitative methods. Building on Phase I recommendations, this study investigates low-cost methods for comparing the equity between auto (roadway) and transit performance or investments for low resource transportation agencies. A literature review revealed that many metrics developed for everyday use are mode-specific, making cross-modal comparisons difficult. Others are too costly or data-heavy for smaller agencies to use. One method used in San Joaquin County, California allows for inexpensive analysis of transportation agency investments across several equity dimensions, including income, race/ethnicity, vehicle availability, and the presence of children in the household. We used these metrics and the San Joaquin method to evaluate 17 regional transportation plans from California metropolitan planning organizations (MPOs) and regional transportation planning agencies, finding that (1) transit/non-motorized spending was the most equitable in regions with large urban centers; (2) transit/non-motorized spending was often highest compared to roadway/auto spending for disadvantaged groups; (3) non-disadvantaged group spending typically favors roadway auto travel in most areas of the state; and (4) analysis is best for large urban areas using Census Public Use Microdata Sample data, but due to small sample sizes, it is often best to use Census Transportation Planning Package data instead. This project indicates that simple, low-cost approaches can produce actionable equity insights and offer a viable path for agencies that cannot employ complex or data-heavy tools, while also highlighting future opportunities to standardize and strengthen equity analyses across the state.

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1.1 Introduction

This report provides the findings of Phase II of our study on reviewing and developing transportation equity metrics. The Phase I project investigated transit equity metrics and provided recommendations on advancements in quantitative methods. This study builds on Phase I recommendations by investigating low-cost methods for comparing the equity between auto (roadway) and transit performance or investments, specifically for low resource transportation agencies including small urban metropolitan transportation organizations (MPOs) and rural regional transportation planning agencies (RTPAs).

1.2 Literature Review and Approach

Our review of the literature found that analysis methods for transportation equity can be grouped into the following broad categories:

- Access to transportation

- Comparative access by auto and transit

- Multimodal access to employment

- Equity of modal investment based on mode use by transportation disadvantaged groups

Our criteria for evaluating alternative equity analysis methods included the following:

- Comparison of alternative modes

- Ease of data acquisition

- Ability to judge equity of investment in alternative modes: i.e., who pays and who benefits

- Understandability

- Ability of RTPAs to carry out the analysis, including access to relevant data and analysis under constraints of staff availability and staff analysis capabilities

For purposes of this research, we decided on what we've called the San Joaquin County method for several reasons. It looks at investment versus use by mode for several socioeconomic groups, including the following:

- Income: high vs. low income. For the purposes of this study, we defined low income as households that fall within the lowest income quartile; the vast majority of these households have incomes that are less than 200% of the poverty level.

- Vehicle availability: zero-car households and other households.

- Presence or absence of minors in the household.

It is one of the least complex methods we reviewed, and it can make use of data available to most planning agencies. Hence, most agencies should have the capability of using this method.

1.3 Review of Data

We based our review of data on the assumption that primary data collection—i.e., special data collections, such as surveys primarily for the purposes of measuring equity—are beyond the reach of most regional transportation planning agencies.

We looked in greatest detail at the Census Transportation Planning Product (CTPP), the American Community Survey (ACS), and the Census Public Use Microdata Sample (PUMS). There are advantages and disadvantages to each of these in terms of data availability, ability to carry out breakdowns of mode use by socioeconomic category, and timeliness. Our final analysis was based on CTPP and PUMS data. In particular, we believe that the lack of geographic specificity of PUMS data in rural areas may be partially compensated for by application of more advanced statistical methods.

1.3.1 Expenditure data by mode

Expenditure data by California MPOs/RTPAs were collected from online sources, typically, from the agency responsible for creating each region's RTP. Within these documents, there were often summary tables that provided a breakdown of planned RTP expenditures by project or program by mode of travel. In these cases, we collected these data and proceeded with our data analysis of cross-modal equity comparisons by combining them with the ACS/Census data described above. In a few cases (e.g., Sacramento), these modal expenditures' breakdown data were not provided in the RTPs. For these, additional efforts were made to calculate expenditures by mode if a detailed project list with modal notations was included in the RTP, assuming the efforts required did not exceed the time and resource constraints of the study.

1.4 Summary of Findings

Our research found a relatively consistent pattern across all the metrics we employed:
- Transit/non-motorized spending was:

- o The most equitable in areas of the state with large urban centers (e.g., the San Francisco Bay Area, Southern California) compared to more rural areas.

- o Often the highest on a per person or per household basis compared to roadway/auto spending for the disadvantaged groups.

- RTP spending on non-disadvantaged groups typically favored roadway auto travel in most areas of California.

- 2016 CTPP vs. 2023 PUMS mode data :

- o Relatively consistent findings whether using CTPP or PUMS data.

- o Smaller sample sizes for variables obtained from PUMS, meaning smaller/rural regions did not produce reliable results.

1.5 Further Research

In the course of this project, we have identified a number of areas for further research. The most promising of these include:

- Consistent spending allocation methods: it was necessary to compensate for inconsistent methods of allocating regional transportation expenditures by mode from some MPOs/RTPAs. Developing a more consistent allocation method would enable a more consistent evaluation of equity in transportation measures across the entire state.

- Low data availability compensation methods: development of refined statistical measures to compensate for low data availability in smaller areas, especially for rural transportation planning agencies.

2. Literature Review

This section presents a review of literature pertaining to multimodal equity measurement, primarily in regional transportation planning at metropolitan transportation organizations (MPOs) and regional transportation planning agencies (RTPAs) in California. The purpose of this review is to identify and analyze existing research with respect to the comparison of investments made by MPOs/RTPAs (hereafter referred to as MPOs) in transit versus automobile planning, infrastructure, and operations, and, in doing so, to provide insights and methods for small to midsized MPOs that do not have access to the resources to enable them to use the complex and expensive travel demand models employed for these purposes by larger, high-resource agencies.

We begin with a summary from this project's previous literature review published in our Phase I report,[1] where we went into detail about how equity is defined in the field of transportation planning and its implications for measurement, and then provide a summary of the key concepts and methods related specifically to cross-modal equity comparisons.

2.1 Defining Equity and Implications for Measurement

To state what may seem obvious, definitions of equity determine how it is measured; if they include complex components of equity they will likely also be difficult to measure. Equity is a multifaceted and complex subject, prone to the subjectivity and value judgments of policymakers, their analysts, and the public since there is no universally accepted definition. Furthermore, there are often some aspects of equity that are not quantitatively measurable at all. Nevertheless, there are some agreed upon definitions and standards that can provide a starting place for those looking to understand equity in terms that are likely to be met with widespread acceptance. Indeed, many transportation-related equity definitions build on equity and social justice concepts conceived by the federal government (as discussed below), giving some consistency between definitions. These definitions typically include aspects of income and racial disadvantage but frequently include other elements as well.[3]

A good example is found in the definition used by Los Angeles Metro, the transit agency for Los Angeles County. For Metro, equity includes a general allusion to "one's outcomes in life," suggesting that most if not all social, economic, educational, and "social identities" need measurement. This implies a wide range of potential impacts, potentially requiring expensive measurement systems.[4] As discussed in Ferrell et al. , many if not most of these definitional components and their measurement methods are beyond the resources of a typical, small or medium-sized MPO.[5]

2.1.1 Title VI of the 1964 Civil Rights Act: the federal government's functional definition of equity

Federal regulatory and legal compliance necessitates that MPOs and other transportation-related agencies adhere to the definition of equity in Title VI of the 1964 Civil Rights Act.[6] While it does not use the word "equity," Title VI has driven much of the policies and procedures in the U.S. that determine each agency's definitions and measurement of equity. In effect, Title VI mandates that at a minimum, income discrimination must be considered as a primary consideration in any equity definition and measurement system. The U.S. DOT has defined the specific requirements for transportation-related agencies to comply with Title VI, adding "race, color, or national origin" discrimination to income for all transportation-related agencies to consider.[7]

Title VI, equity, and beyond

To address a wider range of equity concerns and impacts, President Clinton's 1994 Executive Order (EO) 12898 is often seen to play a complementary role to Title VI, and, in effect, adds to its functional the definition of equity by saying federally funded projects should not be "purchased through the disproportionate allocation of its adverse environmental and health burdens on the community's minority."[8] While Title VI's definition of equity concerned itself with the discriminatory effects of the allocation of benefits from a project, EO 12898 expands its mandate to require consideration (and, by implication, measurement) of a project's social, economic, and environmental impacts as well.[9] In doing so, it enhances the definition of equity to include social and economic impacts beyond Title VI's basic framing of income (and race as added by the US DOT).

The research and professional literature on Title VI (and its accompanying EOs and U.S. DOT regulations) generally identify two important ways implementation tends to fall short of its original intent. First, Title VI allows for local agencies (hereafter referred to as "locals" or "recipients") to define and measure equity according to their own standards. This tends to cause confusion and allows locals to avoid actions that would reduce harm to underprivileged communities.[10] And while these later administrative and executive orders served to broaden the definition of disadvantage to include income (in addition to race), there are groups and individuals equally worthy of consideration and protection such as senior, low-literacy, and disabled populations for whom it is currently left up to local and state governments to decide whether they receive these protections.[13]

Second, Title VI does not require locals to identify and address existing inequities, but only those resulting from federally funded policies and projects in the future. Therefore, it does not directly address past inequities, focusing only on preventing recipients from making things worse.[14, 15, 16]

2.2 Equity Measurement: Practical and Academic

This section provides an overview of the state of the practice in transportation equity measurement, with particular emphasis on the methods used to meet Title VI and its associated requirements for public transportation and then covers how some agencies and academics have gone beyond the basic Title VI requirements.

2.2.1 Transportation equity measurement: state of the practice summary

Martens et al. identify three key components of equity that a measurement system should reflect, revised here to apply to transportation:

1. The benefits and costs that are distributed by transportation are identified and counted.

2. The populations and social groups that transportation distributes its benefits and costs to are identified, differentiated, and counted.

3. The yardstick or distributive principle that determines whether a given transportation service distribution is considered "morally proper" is identified and compared to the actual or forecasted distribution of transit if it is/will be an equitable distribution.[17]

Based on this guidance, the challenge is to create a measurement system that adequately captures these three components in some respect and, importantly, the interrelationships between them.[18] Litman describes five approaches to measuring transportation equity, where analysts evaluate (1) the *fair share of public resources*, or the equity of resources spent between different groups (e.g., drivers versus non-drivers); (2) who bears the *external costs* of transportation such as congestion, safety, and pollution; (3) the *inclusivity of transportation services*, or the degree to which the system serves the diverse needs of disadvantaged populations; (4) the *affordability of transportation services* with respect to income; and (5) *social justice*, where socially disadvantaged groups are evaluated in terms of the previously mentioned approaches (1–4).[19]

There are also a variety of options available for metrics measuring transportation supply, often specific to the modes of travel being considered. According to Karner, these commonly used measures of transit supply—such as average proximity to transit stops, service coverage, transit network coverage, and average transit vehicle headways—are easily combined with demographic data for the service area being analyzed to yield a useful transit equity metric.[20]

Fair share of public resources

Equitable resource distribution is a key issue in transportation policy and planning since the costs and benefits of these scarce resources are often distributed in ways that benefit some groups and

leave others out.[21] As mentioned previously, judging what is fair and for whom is the heart of equity in resource allocation measurement.

Transportation needs equity

Identifying the need for transportation for neighborhoods, corridors, cities, or other geographical areas is a long-standing practice in transportation planning and operations. Therefore, in the case of service needs equity, one approach to measurement is to make these traditional metrics more sensitive to equity.[23]

Communities that are underserved by transportation are often correlated with poverty, a lack of affordable housing, and discrimination-based indicators such as the concentration of low-income households in a particular neighborhood.[24] Some commonly used measures seek to capture the equity implications of these aspects of transportation need:

- Zero-vehicle households: percentage of households with no vehicle available

- Poverty: percentage of households in poverty

- Unemployment: percentage of working age population unemployed

- Transit access: percentage of population within 0.5-mile of fixed-route transit stop/station

- Highway access: percentage of population with 0.5-mile of a highway right-of-way access point (e.g., freeway on-ramp)

- Disability status: percentage of civilian non-institutionalized population with disability

- Housing cost burdened: percent of households spending >30 percent of income on housing[25]

While these metrics have the advantage of being relatively easy to calculate, they are limited when it comes to capturing the nuance and complexity of how transportation, urban form, and equity affect each other, leading some to develop metrics capable of capturing these nuances. There have been a number of studies aimed at addressing these shortcomings.

The Transit Equity Demand Index (TEDI) is one such measurement system, designed to identify locations in need of further transit investment by identifying high-demand areas based on population densities, vehicle availability, and poverty indicators.[26] NACTO developed guidance on "Measures for Transit Streets as Public Space," including a metric that calculates the percentage of system-wide bus stops with shelters and other amenities.[27] Oregon Metro used five evaluation measures to assess its transportation investments strategy, including Access to Travel Options—Systems Completeness and Connectivity, designed to capture access to active transportation

infrastructure and roadway connectivity, including transit stops.[28] Fan and Li's Transit Gap Index (TGI) measures transit supply by measuring physical location and time of day in relation to transit services available in a neighborhood as well as measures of transit need.[29]

Mishra et al. used the Gini coefficient to determine which communities had the greatest transportation needs. Their Inequity Index used household income, vehicle ownership, employment density, and population density, while current and future (predicted) transit performance was measured with "connectivity indices" that used urban form and transit operational characteristics (e.g., transit stop, route, speed, frequency, operational capacity, fare, route origins, and destination).[30]

Carleton and Porter use both Lorenz/Gini methods and a needs gap analysis. Their findings suggest shortcomings of needs gap analysis approaches. First, the aggregation of supply and demand metrics, geographic, and demographic groups into a single index score can hide bias and unknowingly lead to biased interpretations. Therefore, a needs gap analysis cannot provide information on impacts to different population groups. Second, this bias can influence methodological and policy decision-making.[31] However, compared to a needs gap analysis, the Lorenz/Gini methods are more accurate at measuring the potential impacts on different population groups, and Carleton and Porter suggest the best equity analyses incorporate both a needs gap and a Lorenz curve analysis.[32]

Transportation service change equity

Transit service changes—where a highway is built, a local street is widened to include a bike lane, when transit routes or service frequencies are changed, or when sidewalks are installed on a street that previously had none—are often motivated by the perception of a change in travel (often mode-specific) needs, and their effects can be evaluated for their equity impacts. Therefore, transit, auto, bicycle, and walking travel service levels are calculated using well-established methods and are typically modified to address the equity impacts of service changes on disadvantaged and vulnerable populations.

Since Title VI and the U.S. DOT requirements for transportation service change equity analysis gave the development of the definition, metrics, and impact thresholds for measuring and identifying discrimination to transportation agencies and other non-federal government actors,[33] transportation analysts tend to choose equity measurement techniques that give them the maximum flexibility to adjust their service levels to suit their policy goals and operational needs.

One such choice is described by Karner and Golob who found that Census-based (service area-based method) metrics are more likely to identify the discriminatory impacts of service cuts, while metrics based on onboard surveys (a ridership-based method) are better at revealing the discriminatory impacts of service improvements.[34]

Similarly, Marin Transit in the San Francisco Bay Area—serving largely transit-dependent ridership groups in a high-income, white, suburban county—uses their own onboard survey data, when possible, to calculate the following metrics to determine disparate (race-based) or disproportionate (income-based) equity impacts of service changes:

- Change in *transit revenue hours* > 30 percent;

- Change in route > 40 percent route's path over a three-year period; or

- New service on streets not previously used by any route.[35]

The Port Authority, the transit agency for the Pittsburgh, Pennsylvania metropolitan area, explicitly recognizes the significant implications of measuring ridership versus service area population. According to their Title VI analysis guidelines:[36]

> …the Authority may elect to establish comparison populations based upon either ridership data or the population data of a service area. Justification for selection of a ridership data comparison or a service area population comparison must be documented.[37]

Other transit agencies such as AC Transit in the San Francisco Bay Area use metrics that focus on measuring the effects of service changes on the minority and low-income people living, working, shopping, and recreating within their route service area, yielding a very different picture of potential discriminatory effects from a transit agency's planned service changes than would those using surveys of people who are already riding their buses (i.e., on-board survey data).[38]

2.2.2 Transportation equity metrics: advancing the practice

There is an increasing demand for high-quality, low-cost, and easy-to-use transportation equity metrics and data sources;[39] but while the standard industry metrics may serve the everyday operational needs of system operators, few adequately capture the dynamic interactions between land use, transportation services availability, and the geographic distribution of economically or socially disadvantaged populations.[41] As practitioners have often focused on improving their measurements of the equity effects of transportation on specific, disadvantaged population groups that previous techniques overlooked, academic researchers have focused on developing comprehensive and complex transportation and land use accessibility measures meant to capture more of the complexity and making it understandable and actionable.[42]

Measuring other traditionally underserved populations

Caballero and Ng point out that there is an equity gap in the availability and performance of our transportation systems, caused in part by a lack of good performance metrics through which we

can gauge the equity of today's transportation systems. To help fill this gap, they developed the Community Attributed Index (CAI) to identify traditionally underserved populations in the Atlanta metropolitan region. The CAI combines census track-level data from 165 variables by using principal components analysis to statistically reduce those variables into five dimensions: economic opportunity, poverty status, educational attainment, housing and population mix, and family stability.[44]

There are also measurable gender differences in travel behavior that have been identified by several researchers. However, very few transportation agencies in the U.S. have developed metrics for this analysis.[45] Nevertheless, Los Angeles Metro has taken this need seriously, establishing a Women and Girls Governing Council to guide efforts to measure the unique needs of females on their systems, undertaking a study to understand the travel needs and behaviors of women in Los Angeles County and designing a group of metrics to capture these needs.[46]

The TransitCenter developed a variety of tools to help transit agencies and advocates move beyond Title VI by measuring transit equity impacts on single-mother households, essential workers, households below the poverty line, and households without cars. Their online tool features several metrics that combine these demographic data with accessibility to jobs, supermarkets, hospitals, and parks (among others) by transit calculated values.[47]

Accessibility equity metrics

There has been some dissatisfaction with the traditional, less equity-sensitive mobility, and supply-based transportation performance metrics discussed above among practitioners and academics alike.[48, 49] In response, researchers have developed sophisticated accessibility metrics that link data on "the opportunities across space"—i.e., the distribution of important travel destinations such as employment, education, and health care—to measures of travel (generally auto or transit) costs.[50] By combining two important aspects of spatial equity—urban form discrimination through spatial segregation—and transportation discrimination—under investments in modes that serve low-income and other disadvantaged communities—accessibility metrics target the accessibility by mode of a variety of disadvantaged demographic groups, their particular needs (which destinations do they need to travel to), the specific costs they have to pay (both in travel time and fares), and their ability to pay those costs (i.e., income). In effect, accessibility metrics measure transportation equity in ways that the standard metrics described above miss.[51]

These powerful, effective, and useful accessibility measures typically rely on expensive and data-hungry regional travel demand models for key data inputs, presenting a barrier to use for resource-challenged analysts and agencies. While some have sought to fill this gap as well by developing less complex and more user-friendly accessibility measurement methods,[55] most still require expensive and difficult-to-manipulate data inputs for analysis.

There are generally two types of accessibility metrics that typically rely on data from travel demand models: cumulative opportunity, sometimes called "isochronic," measures (see Figure 2.1), calculated by adding all the destinations (either in terms of the number of establishments, building square footage, or number of employees) within a mode-specific, pre-determined travel time of a given origin point (e.g., 30-minutes),[58] and gravity-based measures[63] where it is assumed that large destinations will be more attractive to potential travelers, but the further they are from a trip's origin (in terms of either travel time, cost, or distance), the less attractive they are. The relative attraction of residential neighborhoods to all employment districts within a metropolitan area are typically calculated and summed to produce a single number representing each residential neighborhood to employment in the region. While research comparing these metrics has found that their performance characteristics are similar,[69] there is nonetheless perhaps a slight advantage to the isochronic method since it is somewhat easier to obtain data for and calculate.

Other models rely on spatial or temporal coverage to calculate accessibility. The Transit Opportunity Index (TOI) developed by Mamun et al. expands on these existing metrics by including trip coverage into its accessibility model (e.g., transit per capita service frequency), allowing planners to better understand origin-destination and pair-wise connectivity.[70]

Ryerson et al. advanced a new framework for travel demand model-based accessibility equity measures that modified traditional accessibility measures with social and spatial constraints (social, demographic, and economic variables) to better reflect the equity barriers disadvantaged community members experience in their trip-making.[71]

Figure 2.1 Example Transit Commute Shed From Bayview-Hunters Point In San Francisco Using An Isochronic Accessibility Metric [72]
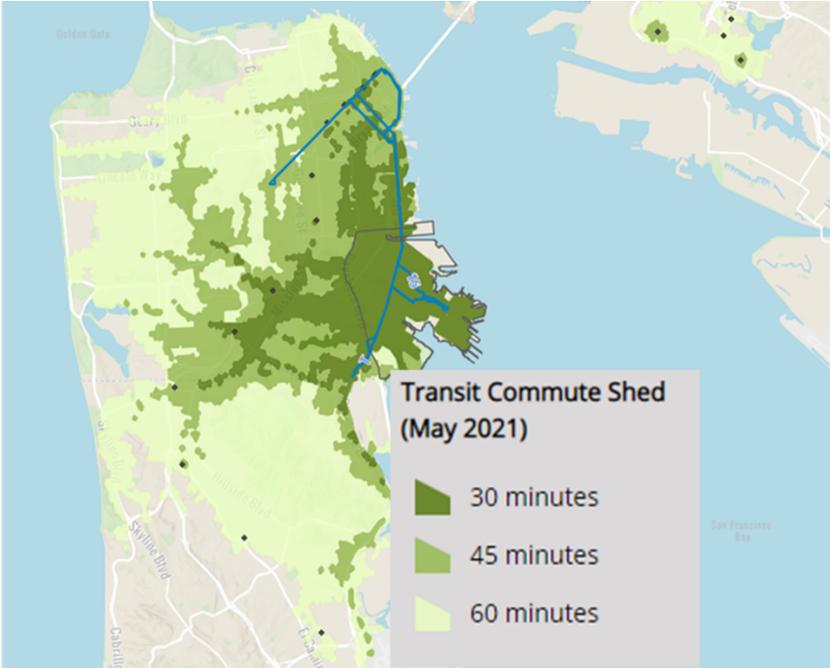
2.3 Multimodal/Cross-modal Comparison Methods

There are many mode-specific equity measurement systems that have been developed over the years and have proven useful in practical and research applications but are not easily modified or altered for cross-modal comparisons.[73] The search for multimodal performance measurement methods has been long and varied. Metropolitan planning organizations (MPOs) looking to analyze the benefits, costs, and equity impacts of their regional transportation plan (RTP) scenarios in particular, increasingly require modal comparison methods for purposes of creating regional transportation plans (RTPs) that budget resources to the multimodal needs and complexities of their jurisdictions, as they grow larger and more urbanized.[75] The literature we review here explicitly or indirectly but meaningfully address the question of how to best compare and contrast the equity performance of multiple modes of transportation, a subject to which we turn in earnest in Section 4. Therefore, our presentation of the following sources is limited to a brief description of each source and method.

Murray and Davis developed an access to transit services (stops/stations) equity method that measures both neighborhood transit need (by income levels and other demographic information) and transit availability (distance to transit stops/stations). Access and need rankings are then compared to the access and income standards selected to identify the areas with the highest need and lowest access to transit.[76]

Levine et al. measured and compared transit and auto accessibility using a travel demand model-based method for work and non-work trip purposes by both auto and transit for equity analysis and comparison across metropolitan areas in the U.S. and assessed the influences of both mobility (speeds) and proximity of origins and destinations on accessibility.[77]

Grengs et al. compared transit and auto accessibility within and between 25 U.S. metropolitan areas, evaluating transportation and land use equity for transit-dependent, low-income, and racial minority populations.[78]

Golub and Martens evaluated accessibility in the San Francisco Bay Area, comparing auto and transit access to jobs to define a rate of multimodal "access poverty" for the region using a simple ratio metric of transit-to-auto accessibility and a significance criterion that said that any ratio value less than or equal to 0.33 indicated a neighborhood that was access poor.[79]

Griffin and Sener used easily acquired data by mode from the EPA's Smart Locations dataset to evaluate transit accessibility in the U.S. metropolitan areas.[80] While only done for transit, this study showed the ease with which cross-modal accessibility comparisons can be done, but without the ability to easily forecast future conditions since the EPA dataset only gives accessibility values and does not provide the means to change inputs and calculate these values.[81]

Karner developed a transit accessibility equity model measuring local access to bus/rail stops for disadvantaged neighborhoods, as well as regional access to jobs and services. Required data inputs include relatively easy-to-obtain U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) dataset, transit route, and schedule information in the General Transit Feed Specification (GTFS) format, but require moderately labor- and resource-intensive work to measure the spatial relationships between zones using a geographic information system (GIS) program.[82]

Gartsman et al. developed a framework to measure the competitiveness between auto and transit modes, called Competitive Access, using two metrics for trip coverage and regional access provided by transit. Trip coverage is measured as the proportion of the region's trips by low-income and other disadvantaged residents that have a competitive transit option, while Regional Access is measured as the proportion of a region's disadvantaged community residents that can reach their local and regional destinations by transit. This method requires regional O-D dataset (travel surveys), location-based services data (gathered from smartphone apps), or cell phone triangulation to identify all possible trips that ha'pen in the region to calculate the competitiveness measure.[83]

Guo et al. developed a framework of multimodal equity comparison methods covering three dimensions of transportation outcomes measurement (accessibility, environmental impact, and safety) with three measurement components (population measurement, cost/benefit analysis, and equity assessment).[84]

Martens et al. used accessibility data calculated by the University of Minnesota's Accessibility Observatory to compare accessibility disparities and insufficiencies for disadvantaged population groups as compared to other groups in 49 of the 50 largest U.S. metropolitan areas.[85]

Sharifiasl et al. developed a multimodal accessibility model that provided cross-modal comparisons of equity for employment professional (blue collar versus white collar), race, and income groups.[86]

Karner et al. investigated a number of multimodal accessibility model comparison methods that evaluated accessibility inequalities between population groups, where some socioeconomic groups systematically have lower access to opportunities than others. And accessibility poverty, where specific populations are identified that suffer from accessibility levels that fall below some pre-determined standard.[87]

Maharjan et al. developed and tested the Modal Access Gap (MAG) method to compare transit and auto access to employment opportunities in 45 U.S. metropolitan areas. Their findings indicate that in all metro areas they studied, transit accessibility to employment is lower than access offered by autos. This finding suggests there is a modal access gap in the U.S. that disproportionately affects elderly, disabled, and low-income households. While the MAG method uses readily available data sources (LEHD employment data) and calculation tools (R-based open-source Rapid Realistic Routing on Real-world and Reimagined networks software), processing

time and expertise requirements are also at a relatively high level, making this method out-of-reach for many low-resource transportation agencies.[88]

Ji et al. developed a multimodal comparison accessibility equity measurement tool to optimize transportation mode interactions providing access to regional transportation hubs (airports, railway stations, long-distance bus stations, subway stations, and bus stops).[89]

2.3.1 Transportation investments equity analysis

A few sources found in this review investigated the potential for and use of relatively simple, inexpensive equity measurement methods. The need is born from a recognition that with limited resources and multiple modes offering different benefits, costs, and performance characteristics, comparisons between modes can be exceedingly difficult for large, well-resourced transportation agencies, and near-impossible for smaller, lower-resourced ones.[90]

Karner gave an overview of MPO/RTPA equity methods used in evaluating primarily RTPs in rural and small urban metro areas in California's San Joaquin Valley. The resources, expertise, and time required to use these methods ranged from Fresno and Kern Counties, where a travel demand model supplies critical analytic outputs (e.g., current and future travel times), to San Joaquin County, where they analyzed RTP investment equity using a relatively simple but powerful method based on using the Census Transportation Planning Package (CTPP) mode choice journey to work data.[91]

Martens and Golub evaluated RTP equity for the 10 largest MPOs in the U.S. by identifying and evaluating the equity-related methods used in each plan. This analysis found that 7 of the 10 largest MPOs in the U.S. used accessibility metrics or other travel demand model outputs, while others used more simple methods that do not explicitly or directly measure cross-modal equity. For example, they found that Atlanta used only one metric that could be seen as having some equity implications: a Jobs-Housing Ratio measure. While notable for its simplicity, it is lacking in terms of a set of standards to judge the findings by and seems unconnected to actual transportation investment outcomes.[92]

The paucity of literature found in our review offering effective tools for low-resource transportation agencies to measure cross-modal transportation equity reflects the lack of attention to their needs; in effect, this lack of attention is both a product of inequities (in terms of a lack of resources) and a cause, since low-resource agencies are unable to properly measure the modal fairness of their plans and budget allocations. These literature review findings suggest a need for cross-modal comparison methods that are applicable and accessible to small metropolitan, micropolitan, and rural MPO/RTPA areas. This need serves as the motivation for our study, and these sources cited here provide us with the building blocks (the methods) to develop a more effective set of tools for low-resource transportation agencies.

2.4 Summary and Conclusions

For the purposes of this study, we focused on evaluating methods from the literature that are capable of cross-modal/multimodal performance comparisons, with particular attention to those methods developed and applied to multimodal equity analysis. Our primary conclusions from this review are:

- While there are many metrics developed for everyday use for planning and engineering practitioners, these are for the most part mode specific and are not easily made compatible with each other for cross-modal comparisons.

- Where there are multimodal equity comparison methods available and in use, they are typically expensive, data intensive, and difficult to operate (e.g., accessibility/travel demand models) for all but a few analysts with the training and support systems within our larger and well-resourced transportation agencies.

- Since there are few multimodal equity comparison methods available that can be used by low-resource transportation agencies, particularly those in rural and small urban areas, there is a clear need for the development of these easy-to-use and effective methods.

- Developing these methods will need to focus on designing a common basis for modal comparisons using widely available and inexpensive data sources. We address this issue in Section 3.

3. Regional Planning Data Sources for Analyzing Transportation Modal Equity

3.1 Introduction

This section discusses the basis for our analysis of transportation modal equity at a regional planning level. Analyses of transportation modal equity require at a minimum:

- Population socioeconomic data, particularly on groups where equity is of greatest concern (e.g., race, income, family structure)

- Mode use by socioeconomic group

- Expenditure data by mode, in sufficient detail to be able to identify potential inequities by socioeconomic group

Our assessment of data sources is based on the following:
- Information provided: The data source should provide data that are relevant to the analysis of equity. These include race, income, vehicle availability, household structure (especially presence of minors in the household), travel mode use, and regional planning agency expenditures by mode.[93]

- Timeliness: The data should be available in a timely manner, ideally no more than a year or two from the present.

- Availability: The data should be readily available.

- Staff time and skills required: Some data sources require extensive staff time and skills to properly analyze, while others require minimal effort.

Section 3.2 discusses the current structure of regional planning organizations in California. Section 3.3 discusses data sources for travel modes and socioeconomic groups. Section 3.3.3 briefly discusses data sources for transportation expenditures by mode and socioeconomic group.

3.2 California Metropolitan Transportation Planning Organizations and Regional Transportation Planning Agencies

Regional transportation planning in California is done by Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs), which are established by state law. MPOs carry out regional transportation planning in urbanized areas with populations over 50,000, while RTPAs carry out transportation planning for rural areas and

counties. The following section discusses in more detail the issues in obtaining data for equity analysis from individual MPOs and RTPAs.

California currently has 18 MPOs and 21 rural RTPAs; there are also 5 RTPAs within MPOs, although the parent MPOs are responsible for coordinating transportation planning for RTPAs with their boundaries.

Our analysis looked at the following groups of MPOs and RTPAs:

- Big Four MPOs: This group includes the Metropolitan Transportation Commission (MTC), the Sacramento Area Council of Governments (SACOG), the San Diego Association of Governments (SANDAG), and the Southern California Association of Governments (SCAG). These are multi-county MPOs with populations exceeding one million.

- Other MPOs: These are, apart from the Association of Monterey Bay Area Governments (AMBAG), one-county MPOs.

- RTPAs: These are one-county agencies in mostly rural counties.

In general, all but the smaller MPOs and rural RTPAs tend to have fairly large technical staff and tend to have readily available data sources for equity analysis.

Rural RTPAs face particular issues with regard to data availability and planning analysis capability.

- Readily available data sources such as the American Community Survey (ACS) often have inadequate sample sizes for rural areas. For example, estimates of the percentage of work trips by transit in small counties often have margins of error that are of the same order of magnitude as the estimates themselves.

- Rural planning agencies usually have very few staff and other resources available for data collection and analysis. A study by Caltrans found that most rural county transportation planning agencies have less than one full-time equivalent staff position available for data collection, and many have none.[94]

3.3 Data by Travel Mode and Socioeconomic Group

Table 3.1 lists the socioeconomic and travel behavior data sources that were considered for this research:

- U.S. Census – American Community Survey (ACS)

- U.S. Census – Public Use Microdata Sample (PUMS)

- U.S. Census – Census Transportation Planning Products (CTPP)

- Household travel survey data

- On-board surveys

3.3.1 U.S. Census – American Community Survey

The American Community Survey (ACS) is a continuing survey of the U.S. population. Data are released at one-year intervals. Tabulations are available for one-year and five-year groupings of the data. Relevant tabulations for this study include work travel mode by characteristics such as race and income.[95]

ACS one-year tabulations are not available for counties with populations under 65,000; 17 of California's 58 counties fall within this category. We considered using five-year tabulations, despite the fact that they span the time of the pandemic. But we found that many of these tabulations did not provide the socioeconomic breakdowns that were needed for our analyses.[96]

In particular, modal tabulations on household characteristics such as income and vehicle ownership were not suitable for the analysis in this research for two reasons:

- There is no breakdown of transit use by transit mode.

- Nonmotorized modes are not included.

Table 3.1 Data sources for socioeconomics and mode use.

Data source	Data type	Advantages	Disadvantages	Skill level required
ACS tabulations	Population socioeconomic characteristics Journey to work mode by socioeconomic category	Easy to specify data Downloadable in	Socioeconomic categories in tabulations may not match desired breakdowns for analysis Margins of error are relatively high for low-population areas	Basic
PUMS	Population socioeconomic characteristics Detailed socioeconomic data on journey to work	Can provide tabulations not available in ACS, such as user-defined socioeconomic categories	Not possible to separate data for individual RTPAs in low-population areas Missing data are imputed; hence, margin of error can be underestimated	Moderate to high, depending on data source
Census Transportation Planning Products	Mode to work by socioeconomic category	Easy to locate Convenient tabulations	Data provided only every four years; can be out of date. Most recent is 2021,	Basic
Household travel surveys	Detailed data on household socioeconomics, travel for work and nonwork trips	Provides mode use data for non-work trips that are missing from other data sources	Extremely expensive Low response rates can bias results Not usually available for small areas Usually done a minimum of every 10 years; hence, data can be out of date Data access may be difficult	Very high
Transit on-board surveys	Data on rider socioeconomic characteristics, use of transit by trip purpose, travel patterns	Data on transit for non-work trips	Expensive Low response rates can bias results Data access may be difficult	Moderate

3.3.2 U.S. Census – Public Use Microdata Sample

Public Use Microdata Sample (PUMS) data consist of individual records from the ACS. PUMS data can be downloaded for individual states or for the entire U.S. PUMS data consist of two types:

- Housing: Data on households including family structure, number of vehicles, presence of children, and income.

- Persons: Data on individual persons in the sample including race, sex, age, earnings, employment status, place of work, and travel mode to work.

PUMS data are grouped geographically into Public Use Microdata Areas (PUMAs) with populations of 100,000 or more. Populations and PUMS sample sizes are shown for larger MPOs and RTPAs in Table 3.2, while Table 3.3 shows PUMAs that cover multiple RTPAs.

PUMS data offer some significant advantages over available ACS tabulations.

- The user does not have to rely on breakdowns of data such as income into predefined categories. For example, in this research we defined the low-income category as consisting of persons in households in the lowest income quartile. The detailed nature of the PUMS data allowed us to cross-check this against income poverty levels; we found that the vast majority of households in the lowest income quartile have incomes that are less than 200% of the poverty level (based on household size), which provided another check on the validity of this definition.

- Detailed mode breakdowns in the PUMS data allowed us to tabulate use of bike and rail modes by household variables such as income, presence of children, and vehicle availability. These types of tabulations are not available from ACS.

- The data include detailed information on households and persons that may be useful for future analyses of mode use based on user characteristics. These include availability of broadband internet connections, computers in the household, wage earnings, occupation category of workers, and industry of workers.

There are, however, some significant disadvantages in working with PUMS data.

- As noted above, PUMS data are geographically grouped into areas (PUMAs) with a minimum population of 100,000. While large metropolitan areas such as Los Angeles or the Bay Area contain many PUMAs, there are some RTPAs whose population is so small that they fall within the same PUMA as other RTPAs (see Table 3.3). For the purposes of our analysis, we assumed that the tabulations for these rural PUMAs could be applied across the board to RTPAs within those PUMAs. Given more time and resources, we believe that these tabulations could be further refined for individual RTPAs within each

rural PUMA using a combination of marginal tabulations from ACS or CTPP and advanced statistical imputation procedures.

- PUMS data for large states such as California require significant computer processing capability. The five-year PUMS household file for California is nearly 0.5 GB in size, while the person file is over 1.1 GB. Hence, a computer with adequate memory (at least 16 GB) and an adequate data processing and analysis program is required to use these data.[99]

- Using PUMS data can require a large amount of staff time, as well as a certain amount of data processing and statistical skill, which may not be available to smaller agencies.

There are, however, available resources that can at least partially make up for the last two. The IPUMS website provides data and analysis tools that can be used to generate data tabulations from PUMS data.[100]

3.3.3 Household travel surveys

Household travel surveys include detailed data on travel by individual households and persons. The advantage is that they provide data on transit use for nonwork trips, which are not available from Census data. The National Renewable Energy Laboratory (NREL) maintains a database of household travel surveys, which includes a sample of over 23,000 California households from 2016–2017.[101] We did not consider these data to be relevant to our study given the age of the data and the effects of the pandemic since the survey was carried out.

We believe that there are serious issues that affect the usefulness of household travel surveys for transportation analysis, and we expect that these issues will become even more serious in the future.

- Household travel surveys are extremely expensive to carry out; an adequate sample size that would allow for analysis of travel behavior by mode would be on the order of 7,000 households at a minimum, for which a typical cost would be on the order $1 million or more. This means that household travel surveys are out of reach for all but the largest MPOs. Even for these MPOs, the high cost means that surveys can be done only about every 10 years or so, but the data are likely to be out of date after about five years.

- Response rates for these surveys have been declining over time. The Bay Area travel survey in 1981 achieved a 70% response rate.[102] Today, response rates of 15% and lower are typical. High response rates result in uncorrectable biases in the data because response rates are typically correlated with travel behavior, especially trip frequency. Declining response rates can be attributed to a number of causes, such as omnipresent telemarketing, the almost universal use of voice mail, and a growing culture of texting rather than telephoning. Internet-based surveys have been used, but it is difficult to control for the quality of the sample, especially response rates.

Table 3.2 MPO and RTPA populations and PUMS sample sizes for RTPAs with one or more PUMAs.

Big 4 MPOs	Population (2023)	No. of PUMAs	PUMS 5-yr samples		
			Household	*Person*	*Commuters*
Metropolitan Transportation Commission (MTC)	7,627,215	62	155,540	374,515	183,665
Sacramento Area Council of Governments (SACOG)	2,581,651	20	50,562	122,206	54,029
San Diego Association of Governments (SANDAG)	3,297,860	22	64,166	150,483	72,565
Southern California Association of Governments (SCAG)	18,575,408	130	341,144	880,382	405,077
Other MPOs					
Association of Monterey Bay Area Governments (AMBAG)	764,659	5	15,994	37,660	16,596
Butte County Association of Governments (BCAG)	205,860	1	4,898	10,727	4,301
Fresno Council of Governments (FCOG)	1,012,424	7	16,573	43,159	16,942
Kings County Association of Governments (KCAG)	152,405	1	3,823	7,687	2,466
Kern Council of Governments (KCOG)	903,372	6	15,200	38,154	14,025
Merced County Association of Governments (MCAG)	285,600	2	4,530	12,384	4,607
Madera County Transportation Commission (MCTC)	158,457	1	2,817	6,839	2,230
Santa Barbara County Association of Governments (SBCAG)	442,614	3	9,551	21,968	9,728
San Joaquin Council of Governments (SJCOG)	784,528	5	12,782	34,128	13,933
San Luis Obispo Council of Governments (SLOCOG)	280,251	2	6,758	13,579	5,697
Shasta Regional Transportation Agency (SRTA)	178,958	1	4,520	10,002	3,762
Stanislaus Council of Governments (StanCOG)	545,704	4	8,759	23,848	9,590
Tulare County Association of Governments (TCAG)	474,792	3	7,326	20,563	7,704
Non-MPO RTPAs					
Humboldt County Association of Governments (HCAOG)	134,388	1	3,413	7,242	2,879

Table 3.3 RTPA populations and PUMS sample sizes for PUMAs containing multiple RTPAs.

| | Population (2023) | | PUMS 5-yr samples | | |
	County	PUMA total	Household	Person	Commuters
PUMA 0300		188,143	5,193	9,952	3,453
Alpine LTC	1,165				
Amador CTC	40,122				
Calaveras COG	44,605				
Inyo LTC	18,731				
Mariposa LTC	16,860				
Mono LTC	13,273				
Tuolumne CTC	53,387				
PUMA 1100		130,491	2,800	6,465	2,343
Colusa CTC	21,905				
Glenn CTC	28,039				
Tehama CTC	64,677				
Trinity CTC	15,870				
PUMA 01500		124,976	5,215	9,705	2,926
Del Norte LTC	26,382				
Lassen CTC	28,232				
Modoc CTC	8,446				
Plumas CTC	18,955				
Siskiyou CLTC	42,961				
PUMA 03300		155,762	3,124	6,772	2,514
Lake CCAPC	66,446				
Mendocino COG	89,316				
PUMA -5700		103,552	2,330	5,009	1,976
Nevada CTC	100,400				
Sierra LTC	3,152				

Note:

CTC	County Transportation Commission
CLTC	County Local Transportation Commission
COG	Council of Governments
LTC	Local Transportation Commission

3.3.4 Census Transportation Planning Products

The Census Transportation Planning Products (CTPP) program is currently funded by state highway departments under the American Association of State Highway and Transportation Officials (AASHTO). CTPP provides tabulations for journey to work data for a number of socioeconomic characteristics of commuters.[103] CTPP data are typically released at four-to-five-year intervals. At the time of our research the most recent CTPP data were for 2016; since then, data for 2021 have been released.

We used CTPP data for some of the analyses as Karner did in his research using the San Joaquin method,[104] but the COVID-19 pandemic has caused significant changes in travel behavior[105] that may render these data obsolete for many RTP project lists we used. Nevertheless, we decided we would use these data in a side-by-side comparison with PUMS data due to the lack of other available and affordable data sources for resource-challenged agencies.

3.3.5 On-board transit surveys

Many transit agencies periodically conduct on-board passenger surveys to get information on rider travel patterns, trip purposes, and socioeconomics. These data are typically available only on an agency-by-agency basis.

These surveys can be expensive if done properly, which involves obtaining adequate coverage of the rider population and minimizing nonresponse bias. Hence, as in the case of household travel surveys, on-board surveys with a sufficient sample size are typically out of the financial reach of smaller agencies.

3.4 Expenditure Data by Mode and Socioeconomic Group

We developed expenditure data by mode and socioeconomic group from regional planning budgets available from MPOs and RTPAs. In developing these data, we found some significant discrepancies in the way some of these agencies categorized their expenditures, especially between how projects were categorized and the descriptions of the projects themselves.

We were able to correct for these discrepancies in applying our analysis method, as described in the next section. But we believe further investigation of these discrepancies, and how to correct for them, merits further research beyond the scope of this study.

3.5 Summary and Conclusions

For purposes of our analysis, we concluded the following on data sources:

- There is no single good source of data on mode use by socioeconomic group.

- The vast majority of available data on mode use by socioeconomic group are for work trips.

- We therefore concluded that work trip data would be used as a surrogate for mode use by socioeconomic group, since work trips account for the majority of non-auto use by transportation-disadvantaged groups.

- We identified discrepancies in some agencies' categorization of expenditures by mode. Our analysis required that we account for these discrepancies, which we were able to do based on individual project descriptions.

We have also concluded that:

- Only PUMS data can provide the necessary detail for breakdown of mode use by socioeconomic category.

- We decided on the five-year 2019–2023 PUMS data set, despite the potential confounding effects due to the pandemic in 2020–2021. In making the tradeoff between sample size and avoidance of confounding effects, we believe that the gain in accuracy from the five-year sample should take precedence.

- Although we were able to correct for discrepancies in expenditure categories for purposes of our analyses, we believe that further investigation, and possible recommendations for uniform reporting of transportation expenditures by mode, would be useful for purposes of future policy analysis.

4. Regional Transportation Plan Modal Equity Analysis Methods Development

Based on potential methods we identified in the literature review (Section 2) for evaluating and comparing the equity of travel modes as well as the assessment of potential data sources in Section 3, we gathered and evaluated a total of 37 (primarily) academic research literature sources in search of a multimodal equity comparison measurement system that could be used by resource-challenged transportation agencies—i.e., small urban MPOs and rural RTPAs. Of these, the team identified a total of 24 sources that offer a method or set of methods for measuring multimodal equity. This section describes our evaluation of these sources and methods, followed by the application of them to a collection of California regional transportation plan project lists and the findings that result.

4.1 Preliminary Methods Evaluation Criteria

This study evaluated the methods found in the literature search using the following criteria as determined through the process of literature review, discussions among the research team members, and discussions with the Study Advisory Group members:

- Measures and Compares Auto and Transit Equity: For any method extant in the literature to be useful for this study, it needs to be already or plausibly capable of measuring and comparing auto and transit equity. We rated the methods we identified in the literature as:

  - Yes – It measures and compares both methods.

  - Maybe – It already measures one and it is conceivable it could be further developed to measure the other mode with minimal or moderate effort.

  - No – Not possible to measure both with the method without significant efforts.

- Ease of Data Acquisition (Availability) and Application to Methods: Since our target audience and users for the methods developed in this study are low(er)-resource agencies and community organizations, the methods should require data that is readily and inexpensively (if not freely) available. We rated the methods we identified in the literature as:

  - Easy – Where the data necessary for modal comparison is inexpensive (or free) and requires little effort to acquire and format for analysis. In cases where we judged that the efforts required were very low, we applied a rating of "Very Easy."

  - Moderate – Methods where data collection and processing is likely to be involved but not overwhelming.

- o Difficult – Methods that are cost, time, and/or effort prohibitive for data collection and processing. In cases where we felt the efforts required were very high, we applied a rating of "Very Difficult."

- Investment- vs. Outcome-oriented Methods: We rated each method we found in the literature search as either an investment- or an outcome-oriented method based on the qualitative judgements of the research team.

  - o Investment-oriented methods use the actual or budgeted (for future years) monies allocated to auto versus transit infrastructure, operations, or supporting services (e.g., marketing, planning, governance) as inputs and produce investment-oriented outputs/findings.

  - o Outcomes-oriented methods apply operational and/or performance inputs to produce outcomes in terms of amount, quality, and/or user perception of transit and auto services.

- Methods Complexity: The complexity (and by implication, difficulty) of using the methods in practice, particularly for low-resource agencies as determined by the qualitative judgements of the research team. We rated these qualitatively from "Low" to "High."

- Ability to Forecast Future Conditions: The ability of low-resource agencies to use the methods for forecasting future conditions and compare them to past and current conditions. We rated the methods qualitatively as "Yes," "No," or "Maybe."

- Flexible Geographic Scale of Analysis: The ability to apply the methods to a variety of geographical scales, from neighborhood up to the regional level. We rated the methods qualitatively as "Yes," "No," or "Maybe."

While these criteria served an important role in our preliminary analysis, they did not address a few issues that could not be done within the scope and budget of our study. These will require further research and development in the future:

- Modal Proportionality in Urban and Rural Settings: The methods and significance standards for modal comparison reviewed here do not generally account for the potential differences between the modal equity needs of rural versus urban settings. Implicit in many of the methods reviewed here is the assumption that a lack of modal services or investments available to one population as compared to another within the same area of study indicates the first group is suffering from a modal inequity. However, if the first population is in a predominantly rural setting and lacks transit services in comparison to the second group which is in an urban setting, the question must be asked whether this difference is truly an

inequity, since major high-capacity transit does not typically serve rural areas well enough to justify these investments.

- Investment-to-Usage Ratios and Latent Demand: Building on our comments on modal proportionality, it is similarly the case that methods that compare modal investments (e.g., RTP or TIP project lists) and usage patterns (e.g., mode share calculations) can be problematic since, for example, low transit mode share may be either due to a history of underinvestment in transit services or a predominantly low density land use pattern that is not easily or effectively served by transit. In this case, proposed transit investments may be adequate for the task, and funds are better spent on other modes for equity purposes. However, where new investments can effectively yield increased transit use, equity may require very high investments proportional to the current transit mode share, and if underinvestment continues there, decision-makers risk reinforcing existing inequities. In other words, current mode use may not reflect unmet (i.e., latent) demand for that mode.

4.2 Preliminary Evaluation Findings

We identified and assessed the methods that were collected during our literature review in terms of the evaluation criteria described above.

4.2.1 Measures and compares auto and transit equity

The first and highest priority for the research team was to determine whether each method can compare auto and transit equity measurements. Those methods that we assigned a ranking of "Yes" are shown below:

- Modal Access Gap (MAG) (Maharjan et al. 2024): Calculates Modal Access Gap (MAG) as the ratio of difference between accessibility by auto and transit (AccessibilityAuto − AccessibilityTransit) / (AA + AT). Employment by Census Block Groups from LEHD, and network routing done by R-based open-source Rapid Realistic Routing on Real-world and Reimagined networks (r5r) software module package.

- Competitive Access (Gartsman et al. 2020): Measures the comparative level of access offered by auto and transit modes. Uses two measures to represent trip coverage and regional access provided by transit. Trip coverage is measured as the proportion of the region's trips by low-income and POC residents that have a competitive transit option, while Regional Access is measured as the proportion of a region's environmental justice (EJ) community residents that can reach their local and regional destinations by transit. Requires regional origin-destination (O-D) dataset (travel surveys, location-based services data (gathered from smartphone apps), or cell phone triangulation to identify all possible trips that happen in the region to calculate competitiveness measure). Competitiveness is determined by using user-defined standards. For example, comparable transit travel times

can be up to 1.25 x as long as auto travel times, while sufficiently competitive transit travel times range from 1.5 x to 2.0 x as long as by auto.

- San Joaquin County Method (Karner 2016): Overview of MPO RTP equity methods used in evaluating primarily rural and small urban metro areas in San Joaquin Valley, California. Uses EJ Community definition of 60% people of color or 20% low income. Methods used involve an analysis of RTP investment equity based on observed mode shares from the Census Transportation Planning Package (CTPP) and MPO/RTPA transportation expenditure plans taken from a regional transportation plan (RTP) or a regional transportation improvement plan (RTIP) document.

- Access Poverty Method (Golub & Martens 2014): Compares auto to transit accessibility by calculating each, then taking them as a ratio (Transit / Auto), then using a ratio of 0.33 or less as a threshold for identifying transit-neglected neighborhoods.

- Network Design Problem Method (Camporeale et al. 2016): Optimization of multimodal (car and transit) network design according to benefit/costs among users using both fuzzy and rigid goals and constraints.

- Blue-collar vs. White-collar Job Accessibility Method (Sharifiasl et al. 2023): Measures blue-collar and white-collar job accessibilities for auto and transit for population groups by income and race.

4.2.2 Preliminary methods evaluation and screening

Table 4.1 shows the methods found in the literature review that we judged capable of comparing auto and transit equity.

Table 4.1 Methods capable of measuring and comparing auto and transit equity.

Method Name	Authors	Measures & Compares Auto & Transit Equity?	Data Availability	Investment or Outcomes Oriented Method?	Methods Complexity	Ability to Forecast Future Conditions?	Flexible Geographic Scale of Analysis?
San Joaquin County Method	Karner (2016)	Yes	Very Easy	Investments	Low	Maybe	Maybe
Competitive Access	Gartsman et al. (2020)	Yes	Difficult	Outcomes	Medium	Maybe	Yes
Modal Access Gap (MAG)	Maharjan et al. (2024)	Yes	Difficult	Outcomes	Medium/ High	Yes	Yes
Access Poverty Method	Golub & Martens (2014)	Yes	Difficult	Outcomes	High	Yes	Yes
Network Design Problem Method	Camporeale et al. (2016)	Yes	Difficult	Outcomes	High	Yes	Yes
Blue-collar vs. White-collar Job Accessibilities Method	Sharifiasl et al. (2023)	Yes	Difficult	Outcomes	High	Yes	Yes

The green highlighted rows in Table 4.1—San Joaquin County (SJC), Competitive Access, and MAG—present what our analysis shows to be the strongest candidates for investigation of their potential for further research and development. We selected these three based on the relative ease of obtaining data and methods with "low" or "medium" complexity, while at the very least, they have the potential for forecasting future conditions and geographical flexibility.

4.2.3 Final selection – San Joaquin County (SJC) method

Based on the information gathered as presented in Table 4.1, we ultimately selected the SJC method for further analysis and evaluation for two reasons:

1. Data availability: The SJC method was the easiest and least expensive method to obtain the necessary data of all the methods shown in Table 4.1. All other methods shown were ranked as "difficult," suggesting they would pose serious challenges to low-resource agency users.

2. Method complexity: The SJC method was the simplest of all the methods we reviewed, making it the most appropriate one for use by resource- and expertise-challenged users.

4.3 SJC Method Equity Measurement Findings Using CTPP Mode Data

We began our application of the SJC method recreating the same low-income and mode of travel equity assessment as was presented in Karner (2016). We followed with the application of the same low-income and mode of travel analysis for the 17 most recent California RTPs/TIPs we found. Once complete, we further modified and expanded the SJC method's capabilities by substituting income-by-mode data from the 2016 CTPP with three other equity-related data variables: race/ethnicity, household vehicles, and number of children per household, all cross-tabulated with commute mode travel information for the workers of each household as provided by the 2016 CTPP. Finally, we investigated the potential for using Public Use Microdata Sample (PUMS) census data from 2023 to recreate these same equity variables but using more recent census data; we present these PUMS-generated data findings for each RTP/TIP from California as well.

4.3.1 SJC method (low-income) re-creation for San Joaquin County – 2011 RTP expenditures

Our first step was to re-create the calculations for San Joaquin County presented in Karner (2016) (see Table 4.2). In doing so, we were able to verify those calculations and more precisely understand how they were done and their implications for equity.

Table 4.2 Re-creation of investment equity analysis from San Joaquin COG's 2011 RTP supplemented with 2000 CTPP data.

Category	Total RTP Investments (Million $)	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	2,074	21.8	78.2	452	1,622	10,600	11,680
Transit (Rail)	667	0.0	100.0	0	667	0	4,800
Non-motorized	193	23.0	77.0	45	149	1,044	1,070
Roadway maintenance	3,004	8.7	91.3	266	2,738	6,220	19,700
Roadway expansion	4,660	8.7	91.3	412	4,248	9,650	30,600
All modes total	10,598	--	--	1,175	9,424	27,514	67,850

[a] CTPP 2000 Part 1, Table 1-034.

[b] Earning <$20,000/year.

[c] According to the 2000 CTPP, out of a total 181,612 households living in San Joaquin County, 42,727 earned <$20,000.

4.3.2 Application of SJC method using CTPP for mode of travel data to MPOs/RTPAs in California

With the time and resource constraints of our study, we were able to collect the most recent RTP/TIP expenditures by mode data for 5 MPOs/RTPAs in California dating from before the COVID-19 pandemic and 12 from after. We used the following analysis steps to calculate low-income and mode equity for each of these project lists:

1. **Acquire and enter RTP investments by mode:** Many RTPs in California provide breakdowns of their planned investments by mode. If these summary data are not provided, alternatively sum the investments by mode from the full RTP project list or from the regional transportation improvement plan (TIP). Sometimes, RTP/TIP project list expenditures are given in current dollar as well as inflation-adjusted dollar values for the year of the project's planned implementation. We recommend using the year of expenditure values. Enter these data into the appropriate rows by mode in the column labeled Total RTP Investments (Million $).

2. **Calculate and enter % of workers using each mode by income:** Acquire Census Transportation Planning Package (CTPP) data for worker household income by mode (B103202) for each county in the RTP's region from the closest year to the RTP's publication date as possible. In our California cases, all RTP years were between 2013 and 2025, so the most appropriate CTPP data year for these calculations was 2016 (5-year). Sum the total number of households in each income group for income categories representing Low-Income and All Other Households by mode, calculate the percentage of each category using each mode, and enter these percentages into the appropriate rows and columns under Share of Workers Using Mode for Journey to Work (%).

3. **Calculate and enter the share of investments by mode and income:** Multiply the Total RTP Investments (Million $) values by the appropriate Share of Workers Using Mode for Journey to Work (%) values and enter them into the appropriate rows and columns under Share of Investments (Million $).

4. **Acquire and calculate per household expenditures by mode:** Acquire Census/American Community Survey (ACS) data household income categories desired—in our cases, we calculated all households 150% and under the federal poverty level and the number of households above 150%—for the year closest to the RTP's publication date as possible. Sum the number of households in each income category and multiply these values by the Share of Investments (Million $) values by mode. Enter these values under Per Household Expenditures ($). These are the values used to compare and evaluate modal income equity in the study area.

The SJC method also called for using the most recent available (2016) CTPP (worker household income levels by mode) and either 2023 ACS or 2020 Census data (household income levels) for all cases. Analysts preparing cases for one or a handful of MPOs/RTPAs will likely find it more appropriate and economical to seek out and acquire the Census and ACS data available that is closest to their RTP's publication year.

4.3.3 Equity analysis findings interpretation – low-income and mode (CTPP) equity

While the calculation of these Per Household Expenditure ($) values by mode is relatively simple and straight-forward, we recognize that their interpretation and assignment of an understanding of income and modal equity can be difficult, largely due to understandable differences in the values and needs of the communities an RTP seeks to serve. Tables 4.3 and 4.4 present a simple format for summarizing and comparing the equity analysis assessments we made based on the Per Household Expenditures ($) values we calculated for each RTP project list; these are necessarily reflective of our own values and professional judgements, and as such may not fit the needs of all communities. Therefore, we encourage each analyst to develop their own means of interpretation that best reflects the values and concerns of the communities they serve.

Table 4.3 presents our equity assessment judgements for all MPOs/RTPAs we found with RTPs dated before the pandemic that we were able to readily acquire for this study, while Table 4.4 shows our same assessments for those RTPs dated during (2020) and after the pandemic. These tables show the final Per Household (HH) Expenditures ($) we calculated for each RTP and provide our judgments for how well these MPOs/RTPAs are performing in terms of the amount of money per household they dedicate to low-income and all other household groups, allowing a direct comparison of these expenditures for transit and non-motorized modes compared to those they made for roadway travel modes (i.e., primarily private automobiles). A "+" sign in this column indicates that MPO/RTPA plans to spend an equivalent or greater amount of resources on a per household basis on transit or non-motorized modes than on roadways (autos).

In contrast, those income groups in this column where we assigned a "-" sign indicate that a RTP's spending priorities give more money to roadway maintenance and new construction, thereby increasing the disadvantages experienced by vulnerable members of our communities. These expenditures are further differentiated by what income groups these expenditures are likely to benefit—low- or higher-income households as determined by the federal poverty level.

Finally, the last column [All Modes Income Equity (+) or Disadvantaged (-)] compares the sum of per household expenditures for all modes for low-income households to the same sum for all other income households. As with the previous column, an RTP that has dedicated equal or more resources on a per household basis to low-income households than higher ones receive a "+" sign indicating their spending plan prioritizes income and modal equity, while a "-" sign indicates their modal spending priorities appear to benefit higher income households more.

Table 4.3 Investment analysis findings summary for all California MPOs/RTPAs with RTPs dated 2019 and before – low-income and modal (CTPP) equity.

| MPO/RTPA | Per household (HH) expenditures ($) | | | | CTPP 2016 equity + or disadvanage - | |
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, low-inc. v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
Low-income households	57,125	9,762	24,793	91,681	+	+
All other households	48,778	4,932	30,262	83,971	+	
Kings County Association of Governments 2018 RTP						
Low-income households	2,593	809	8,459	11,862	-	-
All other households	2,032	306	10,254	12,592	-	
Nevada County Transportation Commission 2018 RTP						
Low-income households	2,459	0	1,982	4,441	+	+
All other households	1,085	0	1,965	3,050	-	
Stanislaus County Council of Governments 2018 RTP						
Low-income households	23,917	6,589	16,723	47,230	+	+
All other households	9,389	2,263	16,932	28,584	-	
Tehama County Transportation Commission 2018 RTP						
Low-income households	1,361	203	19,439	21,002	-	+
All other households	536	15	14,238	14,789	-	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.3 shows that, according to our analysis, MTC's 2013 RTP would appear to have a highly equitable spending plan when viewed in terms of mode and income. In both columns, MTC received a "+" sign for every comparison suggesting that their priorities are weighted in favor of low-income-serving transit and non-motorized services.

Two smaller regions, Nevada and Stanislaus Counties, scored well on per household spending for transit and non-motorized (NM) modes for low-income groups, but did not spend as equitably on transit/NM as they did for roadways and auto mobility when it came to projects benefiting all other households. Nevertheless, their overall pattern of spending on all modes tends to benefit low-income households compared to all others in their counties.

While Tehama County scored well in terms of total spending for low-income households, this spending largely benefits roadway/auto modes of travel as the expense of transit/NM modes for both income groups.

Finally, we found that Kings County's spending patterns largely benefited higher income auto-dependent households.

Table 4.4 Investment analysis findings summary for all California MPOs/RTPAs with RTPs dated 2020 and after – low-income and mode (CTPP) equity.

MPO/RTPA	Per household (HH) expenditures ($)				CTPP 2016 equity + or disadvanage -	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, low-inc. v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
Low-income households	17,803	5,560	24,305	47,668	-	+
All other households	12,169	1,735	23,522	37,427	-	
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
Low-income households	4,075	642	2,138	6,855	+	+
All other households	1,562	262	2,449	4,273	-	
Calaveras County Council of Governments 2022 RTP						
Low-income households	381	147	24,504	25,032	-	-
All other households	89	48	25,390	25,526	-	
Del Norte County Local Transportation Commission 2022 RTP						
Low-income households	1,294	0	29,439	30,733	-	+
All other households	978	0	26,160	27,138	-	
Fresno Council of Governments 2022 RTP						
Low-income households	6,526	5,536	9,654	21,716	+	+
All other households	1,716	1,950	9,584	13,251	-	
Glenn County 2020 RTP						
Low-income households	0	201	5,316	5,517	-	+
All other households	117	88	4,025	4,230	-	
Mariposa County 2022 RTP						
Low-income households	169	109	4,374	4,652	-	-
All other households	540	143	8,639	9,322	-	
Plumas County 2020 RTP **						
Low-income households	0	273	5,279	5,552	-	-
All other households	1,471	224	14,125	15,820	-	
San Benito County Council of Governments 2020 RTP						
Low-income households	22,591	2,680	44,460	69,731	-	+
All other households	5,646	922	51,318	57,886	-	
San Luis Obispo County Council of Governments 2023 RTP						
Low-income households	21,307	3,645	12,295	37,246	+	+
All other households	5,401	1,148	15,496	22,045	-	
Shasta Regional Transportation Agency 2022 RTP						
Low-income households	4,617	1,741	149,186	155,544	-	+
All other households	1,448	715	115,042	117,205	-	
Siskiyou County 2021 RTP						
Low-income households	118	4,005	45,260	49,383	-	+
All other households	30	933	33,727	34,690	-	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.4 suggests that while SCAG and Fresno County have prioritized spending on transit/NM modes that benefit low-income households, their per household spending prioritizes auto mobility for their higher income households.

Per household spending for all modes for SACOG as well as Del Norte, Glenn, San Benito, Shasta, and Siskiyou Counties are all weighted in favor of low-income households, but looking at modal spending for each income group, these regions tend to invest more in their road networks than their transit/NM systems.

Finally, Calaveras, Mariposa, and Plumas Counties all appeared to have modal spending patterns that benefit higher income, auto-oriented households in their communities at the expense of more transit-dependent, economically disadvantaged ones.

4.3.4 Modified SJC method applied to MPOs/RTPAs in California – race/ethnicity and mode equity

Our project also sought to build on the SJC method (Karner 2019) by developing and testing other measures of RTP modal investment equity using other measures of social and economic disadvantage. CTPP provides several other metrics cross-tabulated with their Means of Transportation to Work variable, including race/ethnicity.[109] Since Census data provides race and ethnicity data as separate variables, but as analysts frequently need a single variable to jointly capture these overlapping categories, the CTPP provides a white/non-white and Hispanic/non-Hispanic combined variable as well, cross-tabulated with the mode of travel to work data (B102201).

We used the following analysis steps (abbreviated here where analysis steps differ from those described above for low-income modal equity analysis) to calculate race/ethnicity (white/non-white) and modal equity for each of the RTPs in our study:

1. **Acquire and enter RTP investments by mode:** Already done as described for low-income analysis above.

2. **Calculate and enter % of workers using each mode by race/ethnicity:** Acquire CTPP data for worker race/ethnicity by mode (B102201) for each county in the RTP's region from the closest year to the RTP's publication date as possible. Sum the total number of households in each race/ethnicity category representing white and non-white workers by mode, calculate the percentage of each category using each mode, and enter these percentages into the appropriate rows and columns under Share of Workers Using Mode for Journey to Work (%).

3. **Calculate and enter the share of investments by mode and race/ethnicity:** Multiply the Total RTP Investments (Million $) values by the appropriate Share of Workers Using

Mode for Journey to Work (%) values and enter them into the appropriate rows and columns under Share of Investments (Million $).

4. **Acquire and calculate per worker expenditures by mode:** Acquire Census/American Community Survey (ACS) data person race/ethnicity categories desired—in our cases, we calculated all workers categorized as white and non-white—for the year closest to the RTP's publication date as possible. Sum the number of households in each race/ethnicity category and multiply these values by the Share of Investments (Million $) values by mode. Enter these values under Per Household Expenditures ($). These are the values used to compare and evaluate modal racial equity in the study area.

Equity analysis findings interpretation – race/ethnicity and mode (CTPP) equity

Tables 4.5 and 4.6 summarize our modal and racial equity assessments based on the Per Household Expenditures ($) values we calculated for each RTP project list. The same analysis caveats we mentioned earlier for our low-income and mode equity analysis apply here as well; we encourage each analyst to develop their own means of interpretation that best reflects the values and concerns of the communities they serve.

Table 4.5 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2019 and before – race/ethnicity (white/non-white) and mode (CTPP) equity.

MPO/RTPA	Per household (HH) expenditures ($)				CTPP 2016 equity + or disadvanage -	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, non-white v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
Non-white persons	23,854	1,897	12,606	38,358	+	
White persons	21,970	3,502	16,596	42,068	+	-
Kings County Association of Governments 2018 RTP						
Non-white persons	858	100	3,129	4,087	-	
White persons	581	246	4,904	5,731	-	-
Nevada County Transportation Commission 2018 RTP						
Non-white persons	550	0	645	1,195	-	
White persons	503	0	876	1,379	-	-
Stanislaus County Council of Governments 2018 RTP						
Non-white persons	3,781	1,012	6,096	10,889	-	
White persons	6,126	1,417	8,820	16,363	-	-
Tehama County Transportation Commission 2018 RTP						
Non-white persons	37	14	4,543	4,595	-	
White persons	365	16	6,234	6,615	-	-

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.5 shows that, according to our analysis, MTC's 2013 RTP appears to have one of the most equitable spending plans in our analysis when viewed in terms of mode and race. In the transit/NM equity column, MTC received a "+" sign for each comparison of within-group equity, suggesting their priorities are weighted in favor of transit/NM spending for both white and non-white groups. However, across all modes, total per worker spending favored white workers.

All other regions shown Table 4.5 (Kings, Nevada, Stanislaus, and Tehama Counties) appear to have racially inequitable (disadvantaged) spending plans.

Table 4.6 Investment equity analysis summary for California MPOs/RTPAs with RTPs dated 2020 and after – race/ethnicity (white/non-white) and mode (CTPP) equity.

MPO/RTPA	Per household (HH) expenditures ($)				CTPP 2016 equity + or disadvanage -	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, non-white v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
Non-white persons	6,059	808	9,087	15,953	-	
White persons	5,578	1,143	12,655	19,375	-	-
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
Non-white persons	1,058	133	1,041	2,231	+	
White persons	339	158	1,303	1,799	-	+
Calaveras County Council of Governments 2022 RTP						
Non-white persons	0	13	7,293	7,306	-	
White persons	58	25	10,627	10,710	-	-
Del Norte County Local Transportation Commission 2022 RTP						
Non-white persons	136	0	6,481	6,618	-	
White persons	530	0	11,790	12,320	-	-
Fresno Council of Governments 2022 RTP						
Non-white persons	1,156	907	3,499	5,562	-	
White persons	640	1,374	5,076	7,090	-	-
Glenn County 2020 RTP						
Non-white persons	72	30	1,658	1,760	-	
White persons	13	60	1,993	2,066	-	-
Mariposa County 2022 RTP						
Non-white persons	408	70	2,208	2,686	-	
White persons	136	54	3,771	3,961	-	-
Plumas County 2020 RTP **						
Non-white persons	242	26	921	1,189	-	
White persons	393	116	6,147	6,656	-	-
San Benito County Council of Governments 2020 RTP						
Non-white persons	2,377	444	21,363	24,185	-	
White persons	5,338	636	31,710	37,684	-	-
San Luis Obispo County Council of Governments 2023 RTP						
Non-white persons	4,874	676	5,677	11,227	-	
White persons	2,440	638	7,354	10,432	-	+
Shasta Regional Transportation Agency 2022 RTP						
Non-white persons	1,194	291	34,995	36,481	-	
White persons	587	355	53,023	53,965	-	-
Siskiyou County 2021 RTP						
Non-white persons	36	658	8,612	9,306	-	
White persons	7	433	14,373	14,814	-	-

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.6 shows the analysis findings for RTPs published in 2020 and after and indicates that only SCAG has prioritized spending on transit/NM modes that benefit non-white workers. Overall, total SCAG's RTP per-capita spending on all modes of travel favors non-white residents as well.

Per-capita spending by for all modes added together was tilted in favor of non-white workers in San Luis Obispo County as well, while modal per-capita spending for both whites and non-whites favored the automobile.

4.3.5 Modified SJC method applied to MPOs/RTPAs in California – transit dependent and mode (CTPP) equity

CTPP also provides the number of Vehicles Available per household cross-tabulated with their Means of Transportation to Work variable (B103206).

We used the following analysis steps (abbreviated here as well) to calculate transit-dependent (zero-car households/1+ car households) and modal equity for each of the RTPs in our study:

1. **Acquire and enter RTP investments by mode:** Already done as described for low-income analysis above.

2. **Calculate and enter % of workers using each mode by transit-dependency:** Acquire CTPP data for household vehicles available by mode (B103206) for each county in the RTP's region for the closest year to the RTP's publication date as possible. Sum the total number of households in each household vehicles available (zero-car households/1+ car households) category representing the transit-dependency of workers by mode, calculate the percentage of each category using each mode, and enter these percentages into the appropriate rows and columns under Share of Workers Using Mode for Journey to Work (%).

3. **Calculate and enter the share of investments by mode and transit-dependency:** Multiply the Total RTP Investments (Million $) values by the appropriate Share of Workers Using Mode for Journey to Work (%) values and enter them into the appropriate rows and columns under Share of Investments (Million $).

4. **Acquire and calculate per worker expenditures by mode:** Acquire Census/American Community Survey (ACS) data household categories desired—in our cases, we calculated all workers categorized as 0-Car Worker Households or >0-Car Worker Households—for the year closest to the RTP's publication date as possible. Sum the number of households with/without children category and multiply these values by the Share of Investments (Million $) values by mode. Enter these values under Per Household Expenditures ($). These are the values used to compare and evaluate modal racial equity in the study area.

Equity analysis findings interpretation – transit-dependency and mode (CTPP) equity

Tables 4.7 and 4.8 summarize our modal and transit-dependency equity assessments based on the Per Household Expenditures ($) values we calculated for each RTP project list. The same analysis caveats we mentioned earlier in discussing previous equity analyses apply here as well; we encourage each analyst to develop their own means of interpretation that best reflects the values and concerns of the communities they serve.

Table 4.7 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2019 and before – transit dependent (household car ownership) and mode (CTPP) equity.

MPO/RTPA	Per household (HH) expenditures ($)				CTPP 2016 equity + or disadvanage -	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, Transit Dep. v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
0-Car HH workers	185,181	16,967	7,408	209,556	+	+
>0-Car HH workers	52,024	5,840	42,446	100,310	+	
Kings County Association of Governments 2018 RTP						
0-Car HH workers	6,085	1,078	3,979	11,142	+	-
>0-Car HH workers	2,502	461	13,250	16,213	-	
Nevada County Transportation Commission 2018 RTP						
0-Car HH workers	1,544	0	365	1,909	+	-
>0-Car HH workers	1,238	0	2,107	3,344	-	
Stanislaus County Council of Governments 2018 RTP						
0-Car HH workers	75,030	8,458	6,589	90,078	+	+
>0-Car HH workers	11,241	3,379	23,186	37,807	-	
Tehama County Transportation Commission 2018 RTP						
0-Car HH workers	0	204	1,503	1,707	-	-
>0-Car HH workers	694	30	15,902	16,626	-	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.7 shows that, according to our analysis, MTC's 2013 RTP has one of the most equitable spending plans when viewed in terms of mode and transit-dependency. In both columns, MTC received a "+" sign for each comparison of within-group equity, suggesting their priorities are weighted in favor of transit/NM spending for both transit-dependent (0-Car HH workers) and the other worker/household (0-Car HH workers) groups. Furthermore, across all modes, total per household spending favored transit-dependents.

Stanislaus County's RTP scores as equitable ("+") for transit-dependent households when comparing per household spending on transit/NM modes versus the auto (Roadway), as well as for spending for all modes together for transit-dependent households compared to households with one or more car, but scores as transit/NM-disadvantaged ("-") for all other households.

Two (Kings and Nevada counties) of the three remaining regions shown in Table 4.7 appear to favor transit/NM per household spending compared to spending for roads but have inequitable modal plans when it comes to per household spending on transit/NM compared to roads for households with >0 vehicles and in terms of overall modal spending when comparing 0-Car to >0-Car households.

Finally, we found that Tehama County's RTP favored the automobile and households with one or more vehicles across all three measures.

Table 4.8 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2020 and after – transit dependent (household car ownership) and mode (CTPP) equity.

| MPO/RTPA | Per household (HH) expenditures ($) | | | | CTPP 2016 equity + or disadvanage - | |
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, Transit Dep. v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
0-Car HH workers	41,374	5,928	8,298	55,599	+	+
>0-Car HH workers	14,457	2,462	31,049	47,968	-	
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
0-Car HH workers	11,636	1,014	777	13,426	+	+
>0-Car HH workers	1,901	381	3,571	5,853	-	
Calaveras County Council of Governments 2022 RTP						
0-Car HH workers	0	672	16,759	17,431	-	-
>0-Car HH workers	116	42	25,095	25,254	-	
Del Norte County Local Transportation Commission 2022 RTP						
0-Car HH workers	11,592	0	6,149	17,741	+	-
>0-Car HH workers	348	0	29,114	29,462	-	
Fresno Council of Governments 2022 RTP						
0-Car HH workers	17,757	8,954	3,960	30,671	+	+
>0-Car HH workers	2,062	2,793	12,927	17,782	-	
Glenn County 2020 RTP						
0-Car HH workers	0	41	4,940	4,981	-	-
>0-Car HH workers	134	135	5,401	5,670	-	
Mariposa County 2022 RTP						
0-Car HH workers	1,014	170	2,388	3,572	-	-
>0-Car HH workers	430	131	8,049	8,610	-	
Plumas County 2020 RTP **						
0-Car HH workers	0	1,220	2,586	3,806	-	-
>0-Car HH workers	1,178	207	12,735	14,119	-	
San Benito County Council of Governments 2020 RTP						
0-Car HH workers	99,633	1,798	24,504	125,935	+	+
>0-Car HH workers	8,059	1,596	79,532	89,187	-	
San Luis Obispo County Council of Governments 2023 RTP						
0-Car HH workers	25,319	4,306	5,927	35,552	+	+
>0-Car HH workers	7,839	1,580	18,034	27,454	-	
Shasta Regional Transportation Agency 2022 RTP						
0-Car HH workers	5,728	2,151	30,372	38,250	-	-
>0-Car HH workers	1,628	781	129,841	132,250	-	
Siskiyou County 2021 RTP						
0-Car HH workers	124	4,611	7,008	11,742	-	-
>0-Car HH workers	30	941	31,243	32,214	-	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.8 shows the analysis findings for the 12 RTPs published in 2020 and after, five of them (SACOG, SCAG, Fresno, San Benito, and San Luis Obispo) appear to have prioritized spending on transit/NM modes that benefit transit-dependent households but less on transit/NM for households with >0 cars, and spend more per -household on all modes together for transit-dependents.

One RTP, Del Norte County, spends more per household on transit/NM modes benefiting transit-dependents, while spending more for automobiles and more for all modes together to the benefit of those who own one -or -more vehicles.

Finally, six of the remaining RTPs in Table 4.8 received "-" signs across all three measures, suggesting that they spend more on a per -household basis on automobility than for other modes for all groups (i.e., transit-dependents, and those with access to a vehicle).

4.3.6 Modified SJC method applied to MPOs/RTPAs in California – households with children and mode (CTPP) equity

CTPP also provides the number of households with children cross-tabulated with their Means of Transportation to Work variable (B103200).

We used the following analysis steps (abbreviated here as well) to calculate households with children and modal equity for each of the RTPs in our study:

1. **Acquire and enter RTP investments by mode:** Already done as described for low-income analysis above.

2. **Calculate and enter % of workers using each mode by transit-dependency:** Acquire CTPP data for Presence of Children by Means of Transportation (i.e., mode) (B103200) for each county in the RTP's region for the closest year to the RTP's publication date as possible. Sum the total number of households in each Presence of Children by Means of Transportation (no children/>1 child) category, calculate the percentage of each category using each mode, and enter these percentages into the appropriate rows and columns under Share of Workers Using Mode for Journey to Work (%) in the analysis table.

3. **Calculate and enter the share of investments by mode and transit-dependency:** Multiply the Total RTP Investments (Million $) values by the appropriate Share of Workers Using Mode for Journey to Work (%) values and enter them into the appropriate rows and columns under Share of Investments (Million $).

4. **Acquire and calculate per household expenditures by mode:** Acquire Census/American Community Survey (ACS) data household categories desired—in our cases, we calculated all workers categorized as households with no children or >1-Car Worker Households—

for the year closest to the RTP's publication date as possible. Sum the number of households in each presence of children in HH category and multiply these values by the Share of Investments (Million $) values by mode. Enter these values under Per Household Expenditures ($). These are the values used to compare and evaluate modal racial equity in the study area.

Equity analysis findings interpretation – households with children and mode (CTPP) equity

Tables 4.9 and 4.10 summarize our modal and households with children equity assessments based on the Per Household Expenditures ($) values we calculated for each RTP project list. The same analysis caveats we mentioned in previous equity analyses apply here as well; we encourage each analyst to develop their own means of interpretation that best reflects the values and concerns of the communities they serve.

Table 4.9 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2019 and before – households with children and mode (CTPP) equity.

| MPO/RTPA | Per household (HH) expenditures ($) | | | | CTPP 2016 equity + or disadvanage - | |
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, HHs w-child. v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
HHs w-Children	51,646	5,404	49,763	106,812	+	
HH's w-Out Children	70,220	7,535	34,544	112,299	+	-
Kings County Association of Governments 2018 RTP						
HHs w-Children	514	467	14,337	15,318	-	
HH's w-Out Children	4,386	519	11,468	16,372	-	-
Nevada County Transportation Commission 2018 RTP						
HHs w-children	996	0	2,881	3,877	-	
HH's w-out children	1,327	0	1,778	3,104	-	+
Stanislaus County Council of Governments 2018 RTP						
HHs w-children	13,309	3,630	26,427	43,367	-	
HH's w-out children	15,421	3,659	19,744	38,823	-	+
Tehama County Transportation Commission 2018 RTP						
HHs w-children	1,976	47	17,751	19,775	-	
HH's w-out children	0	38	13,710	13,748	-	+

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.10 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2020 and after – households with children and mode (CTPP) equity.

MPO/RTPA	Per household (HH) expenditures ($)				CTPP 2016 equity + or disadvanage -	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, HHs w-child. v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
HHs w-Children	14,777	2,303	36,955	54,035	−	+
HH's w-Out Children	16,632	2,838	26,254	45,724	−	
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
HHs w-Children	2,782	421	3,939	7,142	−	+
HH's w-Out Children	2,460	425	3,109	5,995	−	
Calaveras County Council of Governments 2022 RTP						
HHs w-children	207	114	37,853	38,174	−	+
HH's w-out children	90	41	21,618	21,748	−	
Del Norte County Local Transportation Commission 2022 RTP						
HHs w-children	0	0	36,797	36,797	▬	+
HH's w-out children	1,487	0	23,956	25,444	▬	
Fresno Council of Governments 2022 RTP						
HHs w-children	3,124	2,645	13,591	19,361	−	+
HH's w-out children	3,224	3,614	11,440	18,278	−	
Glenn County 2020 RTP						
HHs w-children	211	172	7,657	8,040	▬	+
HH's w-out children	86	111	4,155	4,351	▬	
Mariposa County 2022 RTP						
HHs w-Children	135	73	6,345	6,553	−	−
HH's w-Out Children	861	213	10,220	11,294	−	
Plumas County 2020 RTP **						
HHs w-children	0	548	18,408	18,956	−	+
HH's w-out children	1,453	163	10,579	12,194	−	
San Benito County Council of Governments 2020 RTP						
HHs w-Children	6,271	1,091	87,575	94,937	−	+
HH's w-Out Children	13,463	1,967	71,297	86,727	−	
San Luis Obispo County Council of Governments 2023 RTP						
HHs w-children	8,425	1,747	25,143	35,316	−	+
HH's w-out children	8,576	1,672	15,172	25,420	−	
Shasta Regional Transportation Agency 2022 RTP						
HHs w-children	1,335	847	152,010	154,192	−	+
HH's w-out children	2,076	872	113,562	116,510	−	
Siskiyou County 2021 RTP						
HHs w-children	50	1,108	43,781	44,939	−	+
HH's w-out children	31	1,167	25,471	26,669	−	

** = insufficient transit ridership cases in survey for reliable use (<10)

Tables 4.9 and 4.10 show that for all but three RTPs we studied (MTC, Kings, and Mariposa), transit/NM per household spending is always disadvantaged compared to spending on automobility, but total modal spending per household benefits households with children more than households without them.

Of those three RTPs that showed different priorities, MTC is the only one that appears to prioritize transit/NM over automobility spending for both household groups. However, in total, MTC's modal per household spending patterns favor households without children. The two remaining RTPs—Kings and Mariposa Counties—favor automobility and households without children in all cases.

4.4 Application of SJC Method Using PUMS for Mode of Travel Data to MPOs/RTPAs in California

We continued our application of the SJC method recreating the same variables used in the Karner (2016) method reported above, but here, we investigated the potential for using Public Use Microdata Sample (PUMS) census data from 2023 to recreate these same equity variables; we present these PUMS-generated data findings for each RTP/TIP from California as well.

4.4.1 Modified SJC method applied to MPOs/RTPAs in California – low-income and mode (PUMS vs. CTPP) equity

Table 4.11 presents our equity assessment judgements for all MPOs/RTPAs we found with RTPs dated before the pandemic using PUMS data (and CTPP data results are shown in parentheses for comparison), while Table 4.12 shows our same assessments for those RTPs dated during (2020) and after the pandemic. As with the previous summary tables, these tables show the final, Per Household (HH) Expenditures ($) we calculated for each RTP using PUMS mode of commute data and provide our judgments for how well these MPOs/RTPAs are performing in terms of the amount of money per household they dedicate to low-income and all other household groups. However, these summary tables also include our same judgements from the CTPP mode data calculations shown for ease of comparison, with a "(+)" sign representing equitable results and a "(-)" sign representing disadvantaged results.

Table 4.11 Investment analysis findings summary for all California MPOs/RTPAs with RTPs dated 2019 and before using PUMS data – low-income and modal (PUMS vs. CTPP) equity.

MPO/RTPA	Per household (HH) expenditures ($)				PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-)	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, low-inc. v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
Low-income households	128,033	15,340	62,298	205,671	+ (+)	+ (+)
All other households	43,534	4,519	27,489	75,541	+ (+)	
**Kings County Association of Governments 2018 RTP **						
Low-income households	5,064	472	8,649	14,185	- (-)	+ (-)
All other households	1,543	373	10,217	12,132	- (-)	
**Nevada County Transportation Commission 2018 RTP **						
Low-income households	0	0	1,982	1,982	- (+)	- (+)
All other households	1,333	0	1,965	3,298	- (-)	
Stanislaus County Council of Governments 2018 RTP						
Low-income households	14,868	7,272	28,918	51,058	- (+)	+ (+)
All other households	10,575	2,174	15,333	28,082	- (-)	
**Tehama County Transportation Commission 2018 RTP **						
Low-income households	1,394	105	23,544	25,042	- (-)	+ (+)
All other households	531	30	13,591	14,152	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.11 shows that, according to our analysis, MTC's 2013 and Tehama County's 2018 RTPs have the same equity findings, whether using 2023 PUMS or 2016 CTPP mode data. Each of the other three regions—Kings, Nevada, and Stanislaus Counties—each have small differences in their signs compared to CTPP equity findings. However, the Kings, Nevada, and Tehama County PUMS data findings were all calculated using nine or fewer cases for transit mode of travel to work data, a number we deemed too low to be used for reliable findings in this study.

Table 4.12 Investment analysis findings summary for all California MPOs/RTPAs with RTPs dated 2020 and after using PUMS data – low-income and mode (PUMS vs. CTPP) equity.

| MPO/RTPA | Per household (HH) expenditures ($) | | | | PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-) | |
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, low-inc. v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
Low-income households	24,324	4,257	33,962	62,544	- (-)	+ (+)
All other households	11,447	1,879	22,452	35,778	- (-)	
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
Low-income households	6,792	562	3,206	10,561	+ (+)	+ (+)
All other households	1,232	272	2,320	3,824	- (-)	
Calaveras County Council of Governments 2022 RTP **						
Low-income households	485	127	40,587	41,199	- (-)	+ (-)
All other households	79	50	23,808	23,937	- (-)	
Del Norte County Local Transportation Commission 2022 RTP **						
Low-income households	825	0	39,208	40,032	- (-)	+ (+)
All other households	1,042	0	24,819	25,861	- (-)	
Fresno Council of Governments 2022 RTP						
Low-income households	9,152	6,033	14,785	29,971	+ (+)	+ (+)
All other households	1,215	1,855	8,604	11,675	- (-)	
Glenn County 2020 RTP **						
Low-income households	219	269	6,668	7,157	- (-)	+ (+)
All other households	83	77	3,814	3,974	- (-)	
Mariposa County 2022 RTP **						
Low-income households	1,146	174	7,219	8,540	- (-)	- (-)
All other households	356	131	8,103	8,590	- (-)	
Plumas County 2020 RTP **						
Low-income households	397	260	7,877	8,534	- (-)	- (-)
All other households	1,327	229	13,182	14,738	- (-)	
San Benito County Council of Governments 2020 RTP						
Low-income households	33,039	3,039	105,989	142,066	- (-)	+ (+)
All other households	4,873	895	46,768	52,536	- (-)	
San Luis Obispo County Council of Governments 2023 RTP						
Low-income households	15,923	2,454	14,893	33,270	+ (+)	+ (+)
All other households	6,153	1,315	15,133	22,601	- (-)	
Shasta Regional Transportation Agency 2022 RTP						
Low-income households	1,921	1,788	172,640	176,349	- (-)	+ (+)
All other households	1,793	709	112,043	114,545	- (-)	
Siskiyou County 2021 RTP **						
Low-income households	29	2,833	44,763	47,625	- (-)	+ (+)
All other households	44	1,125	33,808	34,978	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

The findings shown in Table 4.12 indicate that the substitution of PUMS mode data for CTPP data in post-pandemic RTPs results in only one difference compared to CTPP equity analysis findings for low-income and mode analysis—Calaveras County's per household investments in low-income households are higher than those benefiting all other households. However, Calaveras, as well as Del Norte, Glenn, Mariposa, and Siskiyou Counties all suffer from an unreliably low number of transit mode cases (less than 10).

4.4.2 Modified SJC method applied to MPOs/RTPAs in California – race and mode (PUMS vs. CTPP) equity

Tables 4.13 and 4.14 show that, according to our analysis, only Kings County's 2018 RTP has the same race/ethnicity and mode equity findings as those produced using CTPP data. Two of the other four regions—MTC and Stanislaus County—have differences in their signs compared to CTPP equity findings, with both showing equity benefits to non-white persons from RTP spending when using PUMS compared to CTPP. Kings, Nevada, and Tehama County PUMS data findings were all deemed unreliable using PUMS data due to insufficient transit mode sample sizes.

Table 4.13 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2019 and before using PUMS data – race/ethnicity (white/non-white) and mode (PUMS vs. CTPP) equity.

MPO/RTPA	Per capita expenditures ($)				PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-)	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, non-white v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
Non-white persons	26,258	2,115	14,518	42,891	+ (+)	+ (-)
White persons	17,668	3,113	13,174	33,955	+ (+)	
Kings County Association of Governments 2018 RTP **						
Non-white persons	153	116	3,416	3,685	- (-)	- (-)
White persons	2,301	206	4,204	6,711	- (-)	
Nevada County Transportation Commission 2018 RTP **						
Non-white persons	2,141	0	924	3,064	+ (-)	+ (-)
White persons	130	0	810	941	- (-)	
Stanislaus County Council of Governments 2018 RTP						
Non-white persons	5,331	1,044	7,144	13,519	- (-)	+ (-)
White persons	3,555	1,363	7,081	11,999	- (-)	
Tehama County Transportation Commission 2018 RTP **						
Non-white persons	476	14	7,201	7,690	- (-)	+ (-)
White persons	105	16	4,660	4,781	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.13 shows that, according to our analysis, only Kings County's 2018 RTP has the same race/ethnicity and mode equity findings as those produced using CTPP data. Two of the other four regions—MTC and Stanislaus County—have differences in their signs compared to CTPP equity findings, with both showing equity benefits to non-white persons from RTP spending when using PUMS compared to CTPP. Kings, Nevada, and Tehama County PUMS data findings were all deemed unreliable using PUMS data due to insufficient transit mode sample sizes.

Table 4.14 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated after 2020 and after using PUMS data – race/ethnicity and mode (PUMS vs. CTPP) equity.

| MPO/RTPA | Per capita expenditures ($) | | | | PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-) | |
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, non-white v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
Non-white persons	7,100	939	10,717	18,756	- (-)	+ (-)
White persons	4,453	1,001	10,894	16,349	- (-)	
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
Non-white persons	1,067	134	1,145	2,347	+ (+)	+ (+)
White persons	316	155	1,050	1,520	- (-)	
Calaveras County Council of Governments 2022 RTP **						
Non-white persons	119	30	10,781	10,929	- (-)	+ (-)
White persons	22	20	9,558	9,600	- (-)	
Del Norte County Local Transportation Commission 2022 RTP **						
Non-white persons	543	0	5,439	5,983	- (-)	- (-)
White persons	243	0	12,526	12,768	- (-)	
Fresno Council of Governments 2022 RTP						
Non-white persons	979	958	3,831	5,767	- (-)	- (-)
White persons	1,121	1,236	4,176	6,534	- (-)	
Glenn County 2020 RTP **						
Non-white persons	61	29	1,673	1,764	- (-)	- (-)
White persons	25	62	1,976	2,062	- (-)	
Mariposa County 2022 RTP **						
Non-white persons	506	73	3,464	4,043	- (-)	+ (-)
White persons	103	53	3,351	3,507	- (-)	
Plumas County 2020 RTP **						
Non-white persons	371	31	1,550	1,952	- (-)	- (-)
White persons	254	111	5,466	5,830	- (-)	
San Benito County Council of Governments 2020 RTP						
Non-white persons	3,099	318	22,392	25,809	- (-)	- (-)
White persons	3,717	921	29,399	34,038	- (-)	
San Luis Obispo County Council of Governments 2023 RTP						
Non-white persons	4,475	520	6,988	11,983	- (-)	+ (+)
White persons	2,655	722	6,647	10,025	- (-)	
Shasta Regional Transportation Agency 2022 RTP						
Non-white persons	848	356	44,620	45,825	- (-)	- (-)
White persons	701	334	49,841	50,876	- (-)	
Siskiyou County 2021 RTP **						
Non-white persons	34	417	11,016	11,467	- (-)	- (-)
White persons	8	524	13,472	14,004	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.14 shows that the substitution of PUMS mode data for CTPP data in post-pandemic RTPs results in only one difference compared to CTPP equity analysis findings for race and mode analysis for MPOs/RTPAs with more than 9 PUMS transit cases—SACOG's per household investments in non-white households are higher than those benefiting all other households. However, Calaveras County, as well as Del Norte, Glenn, Mariposa, and Siskiyou Counties, all suffer from an unreliably low number of transit mode cases (less than 10).

4.4.3 Modified SJC method applied to MPOs/RTPAs in California – transit dependent and mode (PUMS vs. CTPP) equity

Tables 4.15 and 4.16 summarize our modal and transit-dependency equity assessments based on the Per Household Expenditures ($) values we calculated for each RTP project list. The same analysis caveats we mentioned earlier in discussing previous equity analyses apply here as well; we encourage each analyst to develop their own means of interpretation that best reflects the values and concerns of the communities they serve.

Table 4.15 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2019 and before using PUMS data – transit dependent (HH vehicles) and mode (CTPP & PUMS) equity.

MPO/RTPA	Per worker expenditures ($)				PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-)	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, transit dep. v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
0-Car HH workers	194,696	15,443	8,651	218,789	+ (+)	+ (+)
>0-Car HH workers	51,030	6,000	42,316	99,346	+ (+)	
Kings County Association of Governments 2018 RTP **						
0-Car HH workers	0	851	2,800	3,651	- (+)	- (-)
>0-Car HH workers	2,880	475	13,324	16,678	- (-)	
Nevada County Transportation Commission 2018 RTP **						
0-Car HH workers	0	0	690	690	- (+)	- (-)
>0-Car HH workers	1,308	0	2,092	3,400	- (-)	
Stanislaus County Council of Governments 2018 RTP						
0-Car HH workers	9,523	10,285	5,573	25,380	+ (+)	- (+)
>0-Car HH workers	14,894	3,278	23,243	41,414	- (-)	
Tehama County Transportation Commission 2018 RTP **						
0-Car HH workers	0	53	3,761	3,814	- (-)	- (-)
>0-Car HH workers	694	40	15,759	16,492	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.15 shows that, according to our analysis, only Stanislaus County's 2018 RTP PUMS analysis yielded a different equity finding compared to CTPP-based findings for transit dependent households, with transit-dependent households changing from an equitable rating to a disadvantaged one when compared to spending for households with one or more vehicles.

Table 4.16 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2020 and after using PUMS data – transit dependent and mode (CTPP & PUMS) equity.

MPO/RTPA	Per worker expenditures ($)				PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-)	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, transit dep. v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
0-Car HH workers	49,228	6,085	9,148	64,462	+ (+)	+ (+)
>0-Car HH workers	13,969	2,452	30,996	47,418	- (-)	
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
0-Car HH workers	11,241	925	890	13,056	+ (+)	+ (+)
>0-Car HH workers	1,930	387	3,562	5,880	- (-)	
Calaveras County Council of Governments 2022 RTP **						
0-Car HH workers	1,419	242	18,788	20,450	- (-)	- (-)
>0-Car HH workers	84	52	25,050	25,186	- (-)	
Del Norte County Local Transportation Commission 2022 RTP **						
0-Car HH workers	1,313	0	5,233	6,547	- (+)	- (-)
>0-Car HH workers	1,041	0	29,176	30,217	- (-)	
Fresno Council of Governments 2022 RTP						
0-Car HH workers	8,997	5,465	3,199	17,661	+ (+)	- (+)
>0-Car HH workers	2,737	3,061	12,986	18,784	- (-)	
Glenn County 2020 RTP **						
0-Car HH workers	0	327	2,558	2,885	- (-)	- (-)
>0-Car HH workers	134	126	5,478	5,738	- (-)	
Mariposa County 2022 RTP **						
0-Car HH workers	2,071	205	2,063	4,339	+ (-)	- (-)
>0-Car HH workers	361	128	8,070	8,560	- (-)	
Plumas County 2020 RTP **						
0-Car HH workers	2,176	833	3,618	6,627	- (-)	- (-)
>0-Car HH workers	1,085	223	12,691	14,000	- (-)	
San Benito County Council of Governments 2020 RTP						
0-Car HH workers	81,164	2,893	40,100	124,157	+ (+)	+ (+)
>0-Car HH workers	8,557	1,567	79,111	89,235	- (-)	
San Luis Obispo County Council of Governments 2023 RTP						
0-Car HH workers	18,080	3,678	8,805	30,563	+ (+)	+ (+)
>0-Car HH workers	8,142	1,607	17,914	27,662	- (-)	
Shasta Regional Transportation Agency 2022 RTP						
0-Car HH workers	5,699	2,039	32,322	40,060	- (-)	- (-)
>0-Car HH workers	1,630	788	129,713	132,131	- (-)	
Siskiyou County 2021 RTP **						
0-Car HH workers	48	2,731	6,183	8,963	- (-)	- (-)
>0-Car HH workers	35	1,056	31,293	32,384	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.16 shows that the substitution of PUMS mode data for CTPP data in post-pandemic RTPs results in only one difference compared to CTPP equity analysis findings for transit dependent analysis for MPOs/RTPAs with more than 9 PUMS transit cases—Fresno County's per household investments for transit dependent households are lower than those benefiting all other households. However, Calaveras County, as well as Del Norte, Glenn, Mariposa, and Siskiyou Counties, all suffer from an unreliably low number of transit mode cases (less than 10).

4.4.4 Modified SJC method applied to MPOs/RTPAs in California – households with children and mode (PUMS vs. CTPP) equity

Tables 4.17 and 4.18 summarize our mode (PUMS vs. CTPP) and households with children equity assessments based on the Per Household Expenditures ($) values we calculated for each RTP project list. The same analysis caveats we mentioned in previous equity analyses apply here as well; we encourage each analyst to develop their own means of interpretation that best reflects the values and concerns of the communities they serve.

Table 4.17 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2019 and before using PUMS data – households with children and mode equity.

	Per household (HH) expenditures ($)				PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-)	
MPO/RTPA	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, HHs w-child. v. all other
Metropolitan Transportation Commission (MTC) 2013 RTP (9-county Bay Area)						
HHs w-Children	60,432	6,230	54,129	120,790	+ (+)	+ (-)
HH's w-Out Children	66,428	7,179	32,660	106,267	+ (+)	
Kings County Association of Governments 2018 RTP **						
HHs w-Children	1,183	662	15,439	17,284	- (-)	+ (-)
HH's w-Out Children	3,876	370	10,629	14,875	- (-)	
Nevada County Transportation Commission 2018 RTP **						
HHs w-children	0	0	3,427	3,427	- (-)	+ (+)
HH's w-out children	1,623	0	1,615	3,239	+ (-)	
Stanislaus County Council of Governments 2018 RTP						
HHs w-children	21,240	4,381	29,279	54,900	- (-)	+ (+)
HH's w-out children	10,480	3,191	17,967	31,638	- (-)	
Tehama County Transportation Commission 2018 RTP **						
HHs w-children	1,253	37	22,649	23,938	- (-)	+ (+)
HH's w-out children	356	43	11,297	11,696	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

Table 4.18 Investment equity analysis findings summary for California MPOs/RTPAs with RTPs dated 2020 and after using PUMS data – households with children and mode equity.

MPO/RTPA	Per household (HH) expenditures ($)				PUMS 2023 equity + or disadvantage - CTPP 2016 equity (+) or disadvantage (-)	
	Transit	Non-motorized	Roadway	All modes total	Transit/ non-motorized	All modes, HHs w-child. v. all other
Sacramento Area Council of Governments (SACOG) 2025 RTP (6-county region)						
HHs w-Children	14,777	2,303	36,955	54,035	- (-)	+ (+)
HH's w-Out Children	16,632	2,838	26,254	45,724	- (-)	
Southern California Association of Governments (SCAG) 2025 RTIP (6-county region)						
HHs w-Children	3,105	435	4,508	8,048	- (-)	+ (+)
HH's w-Out Children	2,304	419	2,833	5,555	- (-)	
Calaveras County Council of Governments 2022 RTP **						
HHs w-children	137	97	48,610	48,844	- (-)	+ (+)
HH's w-out children	107	45	18,877	19,030	- (-)	
Del Norte County Local Transportation Commission 2022 RTP **						
HHs w-children	1,869	0	42,397	44,266	- (-)	+ (+)
HH's w-out children	729	0	21,684	22,413	- (-)	
Fresno Council of Governments 2022 RTP						
HHs w-children	3,726	3,574	15,511	22,811	- (-)	+ (+)
HH's w-out children	2,834	3,012	10,197	16,043	- (-)	
Glenn County 2020 RTP **						
HHs w-children	234	111	7,612	7,957	- (-)	+ (+)
HH's w-out children	73	144	4,180	4,396	- (-)	
Mariposa County 2022 RTP **						
HHs w-Children	250	103	6,657	7,009	- (-)	- (-)
HH's w-Out Children	749	183	9,916	10,848	- (-)	
Plumas County 2020 RTP **						
HHs w-children	2,587	380	24,487	27,454	- (-)	+ (+)
HH's w-out children	712	211	8,838	9,761	- (-)	
San Benito County Council of Governments 2020 RTP						
HHs w-Children	7,103	1,318	85,379	93,801	- (-)	+ (+)
HH's w-Out Children	12,867	1,804	72,869	87,540	- (-)	
San Luis Obispo County Council of Governments 2023 RTP						
HHs w-children	10,522	2,136	27,132	39,789	- (-)	+ (+)
HH's w-out children	7,920	1,550	14,550	24,020	- (-)	
Shasta Regional Transportation Agency 2022 RTP						
HHs w-children	1,222	1,223	203,035	205,480	- (-)	+ (+)
HH's w-out children	2,117	737	95,248	98,101	- (-)	
Siskiyou County 2021 RTP **						
HHs w-children	76	1,644	55,274	56,994	- (-)	+ (+)
HH's w-out children	23	999	21,864	22,886	- (-)	

** = insufficient transit ridership cases in survey for reliable use (<10)

These tables show identical households with children and mode equity ratings for PUMS and CTPP, with the exception of MTC, where spending per household for all modes was higher for households with children than for those without when using PUMS mode data, while households with children were at a disadvantage when using the CTPP data.

4.5 Summary and Conclusions

Our research found a relatively consistent pattern across all the metrics we employed to test equity investments spending (income, race/ethnicity, transit-dependency, and households with children), wherein transit and non-motorized spending was the most equitable in areas of the state with large urban centers (e.g., San Francisco Bay Area, Southern California) compared to more rural areas. Furthermore, transit/non-auto mode spending was most often highest on a per person or per household basis compared to roadway/auto spending for the disadvantaged groups identified in each of these metrics, while spending for non-disadvantaged groups (i.e., all other households/persons/workers) typically favored roadway auto travel in most areas of the state.

These findings were relatively consistent whether using CTPP or PUMS data. Unfortunately, due to the smaller sample sizes for variables obtained from PUMS, most smaller population regions we studied in California had few transit mode cases (between 10 and 50), necessitating a warning to use these data and analyses with caution, or too few to be used reliably at all (0 to 9 cases).

5. Summary and Conclusions

5.1 Literature Review and Approach

Our review of the literature found that analysis methods for transportation equity can be grouped into the following broad categories:

- Access to transit

- Comparative access by auto and transit

- Multimodal access to employment

- Equity of modal investment based on mode use by transportation disadvantaged groups

Our criteria for evaluating alternative equity analysis methods included the following:
- Comparison of alternative modes

- Ease of data acquisition

- Ability to judge equity of investment in alternative modes, i.e., who pays and who benefits

- Understandability

- Ability of low-resource regional transportation planning agencies to carry out the analysis, including access to relevant data and ability to carry out the analysis under constraints of staff availability and staff analysis capabilities

For purposes of this research, we decided on the San Joaquin County method for several reasons. It looks at investment versus use by mode for several socioeconomic groups, including the following:

- Income: high vs. low income. For the purposes of this study, we defined low income as households that fall within the lowest income quartile; the vast majority of these households have incomes that are less than 200% of the poverty level.

- Vehicle availability: zero-car households and other households.

- Presence or absence of minors in the household.

It is one of the least complex methods we reviewed, and it can make use of data that are available to most planning agencies. Hence, most agencies should have the capability of using this method.

5.2 Review of the Data

We based our review of data on the assumption that primary data collection—i.e., special data collections such as surveys primarily for the purposes of measuring equity—are beyond the reach of most regional transportation planning agencies.

Mode use by socioeconomic group is, in general, available only for work trips. Mode use for other trip purposes can only be obtained from special-purpose surveys such as household travel surveys. As noted in Section 2, these types of surveys are generally too expensive to undertake for all but the largest planning agencies, and they are becoming less useful because of increasing biases due to decreasing nonresponse rates.

We looked in greatest detail at the Census Transportation Planning Product (CTPP), the American Community Survey (ACS), and the Census Public Use Microdata Sample (PUMS). There are advantages and disadvantages to each of these in terms of data availability, ability to carry out breakdowns of mode use by socioeconomic category, and timeliness. Our final analyses were based on CTPP and PUMS data. In particular, we believe that the lack of geographic specificity of PUMS data in rural areas may be partially compensated for by application of advanced statistical methods.

Expenditure data for California MPOs/RTPAs were collected from online sources, typically, from the agency responsible for creating each region's RTP. Within these documents, there were often summary tables that provided a breakdown of planned RTP expenditures by project or program by mode of travel. In a few cases (e.g., Sacramento), these modal expenditures breakdown data were not provided in the RTPs. For these, additional efforts were made to calculate expenditures by mode if a detailed project list with modal notations was included in the RTP.

5.3 Summary of Findings

Our research found a relatively consistent pattern across all the metrics we employed:

- Transit/non-motorized spending was:

    - The most equitable in areas of the state with large urban centers (e.g., San Francisco Bay Area, Southern California) compared to more rural areas.

    - Often the highest on a per person or per household basis compared to roadway/auto spending for the disadvantaged groups.

- Non-disadvantaged group RTP spending typically favored roadway auto travel in most areas of the state.

- 2016 CTPP vs. 2023 PUMS mode data:

    o Relatively consistent findings whether using CTPP or PUMS data.

    o Smaller sample sizes for variables obtained from PUMS, meaning smaller/rural regions did not produce reliable results.

5.4 Policy and Practice Recommendations

This study makes several policy and practice recommendations to transportation agencies:

- Carry out more explicit and routine analytic comparisons between the equity of transportation mode equity in terms of policy, planning, investments, performance, and service quality.

- Develop and expand on existing methods (such as the San Joaquin method applied in this study) that can facilitate cross-modal comparisons of transportation equity.

- Increase and enhance the data, training, and resources available to low-resource transportation agencies that would enable them to conduct routine and effective cross-modal equity comparisons at all levels of geographic scale and coverage.

5.5 Further Research

In the course of this project, we have identified a number of areas for further research. The most promising of these include:

- It was necessary to compensate for inconsistent methods of allocating regional transportation expenditures by mode. Developing a more consistent allocation method would enable a more consistent evaluation of equity in transportation measures across the entire state.

- Evaluation of the errors, inconsistencies, and effectiveness of RTP and TIP project lists. In our investigations, project coding and categorization errors were found to generate inconsistencies between RTP goals, objectives, and projects funded.

- Development of refined statistical measures to compensate for low data availability in smaller areas, especially for rural transportation planning agencies.

- Further development of standard methods for calculating and comparing equity in transportation financing and budgeting between modes that will more effectively capture the relative investments made in the past as well as, as done in this study, the future. This would require a relatively low-cost way of accounting for past investments by mode in

existing infrastructure and services—e.g., the net present value of all existing roadways in an MPO's jurisdiction to account for past auto investments.

- Develop a menu of policy and planning interventions based on the findings from applying the methods developed in this study to address inequities in modal investments.

- Develop methods to identify the levels of investments by mode required to meet greenhouse gas emissions targets, while still providing for the continuation of necessary services and infrastructure. This would require breaking out allocations by capital and operations & management for each mode, as done in this study for automobiles/roadways.

6. Appendix A: CTPP-Based Investment Equity Analysis Results

6.1 CTPP 2023 mode data – low-income and mode equity analysis

Table 6.1 Investment equity analysis from Metropolitan Transportation Commission's (MTC's) 2014 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	180,000.0	8.0	92.0	14,347	165,653	57,125	48,778
Transit (Rail)	0.0	4.6	95.4	0	0	0	0
Non-motorized	19,200.0	12.8	87.2	2,452	16,748	9,762	4,932
Roadway maintenance	94,000.0	5.7	94.3	5,370	88,630	21,382	26,098
Roadway expansion	15,000.0	5.7	94.3	857	14,143	3,412	4,165
All modes total	308,200.0	--	--	23,026	285,174	91,681	83,971

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 3,396,089 households living in the 9-county Bay Area, 251,153 earned <$30,000.

[d] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 6.2 Investment equity analysis from Sacramento Area Council of Governments' (SACOG's) 2025 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per household investments[c] for each	
		Low-income households[b]	All other households	income households	All other households	income household	All other households
Transit (Bus)	9,112.3	18.7	81.3	1,702	7,410	14,457	6,974
Transit (Rail)	5,914.2	6.7	93.3	394	5,520	3,346	5,195
Non-motorized	2,497.8	26.2	73.8	655	1,843	5,560	1,735
Roadway maintenance	11,078.3	10.3	89.7	1,138	9,940	9,666	9,355
Roadway expansion	16,776.5	10.3	89.7	1,723	15,053	14,639	14,167
All modes total	45,379.2	--	--	5,612	39,767	47,668	37,427

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 1,180,269 households living in the 6-county SACOG region, 117,731 earned <$30,000.

[d] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 6.3 Investment equity analysis from Southern California Association of Governments' (SCAG's) 2025 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	15,962.5	24.0	76.0	3,836	12,126	4,075	1,562
Transit (Rail)	0.0	10.0	90.0	0	0	0	0
Non-motorized	2,638.5	22.9	77.1	604	2,034	642	262
Roadway maintenance	4,708.6	9.6	90.4	451	4,258	479	548
Roadway expansion	16,321.2	9.6	90.4	1,562	14,759	1,659	1,901
All modes total	39,630.9	--	--	6,454	33,177	6,855	4,273

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 8,705,078 households living in the 6-county SCAG region, 941,442 earned <$30,000.

[d] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-summary.pdf?1725569135

Table 6.4 Investment equity analysis from the Calaveras County Council of Governments 2021 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	2.0	29.6	70.4	1	1	381	89
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	23.1	76.9	0	1	147	48
Roadway maintenance	112.8	8.7	91.3	10	103	6,196	6,420
Roadway expansion	333.1	8.7	91.3	29	304	18,308	18,969
All modes total	448.9	--	--	39	409	25,032	25,526

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 17,617 households living in Calveras County, 1,577 earned <$30,000.

[d] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 6.5 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	income households[b]	All other households	Low-income households	All other households
Transit (Bus)	10.2	15.4	84.6	2	9	1,294	978
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	37.4	62.6	0	0	0	0
Roadway maintenance	0.0	13.4	86.6	0	0	0	0
Roadway expansion	266.1	13.4	86.6	36	231	29,439	26,160
All modes total	276.3	--	--	37	239	30,733	27,138

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 10,022 households living in Del Norte County, 1,210 earned <$30,000.

[d] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 6.6 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	1,026.0	42.1	57.9	432	594	6,526	1,716
Transit (Rail)	0.0	2.8	97.2	0	0	0	0
Non-motorized	1,041.6	35.1	64.9	366	676	5,536	1,950
Roadway maintenance	2,328.0	16.1	83.9	376	1,952	5,678	5,637
Roadway expansion	1,630.0	16.1	83.9	263	1,367	3,976	3,947
All modes total	6,025.6	--	--	1,436	4,590	21,716	13,251

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 412,493 households living in San Joaquin County, 66,128 earned <$30,000.

[d] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 6.7 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	1.3	0.0	100.0	0.0	1.3	0	117
Transit (Rail)	0.0	0.0	100.0	0.0	0.0	0	0
Non-motorized	1.3	26.3	73.7	0.3	1.0	201	88
Roadway maintenance	52.6	17.1	82.9	9.0	43.6	5,316	4,025
Roadway expansion	0.0	17.1	82.9	0.0	0.0	0	0
All modes total	55.2	--	--	9	46	5,517	4,230

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 12,532 households living in Glenn County, 1,691 earned <$30,000.

[d] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 6.8 Investment equity analysis from Kings County's 2018 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	118.6	20.2	79.8	24	95	2,593	2,032
Transit (Rail)	0	44.4	55.6	0	0	0	0
Non-motorized	22	34.4	65.6	7	14	809	306
Roadway maintenance	361.9	14.0	86.0	51	311	5,508	6,677
Roadway expansion	194	14.0	86.0	27	167	2,951	3,577
All modes total	696.1	--	--	109	587	11,862	12,592

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 55,819 households living in Kings County, 9,225 earned <$30,000.

[d] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 6.9 Investment equity analysis from the Mariposa County 2022 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	3.5	5.6	94.4	0	3	169	540
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	12.6	87.4	0	1	109	143
Roadway maintenance	57.9	8.7	91.3	5	53	4,374	8,639
Roadway expansion	0.0	8.7	91.3	0	0	0	0
All modes total	62.4	--	--	5	57	4,652	9,322

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 7,269 households living in Mariposa County, 1,151 earned <$30,000.

[d] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 6.10 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	income households[b]	All other households	Low-income households	All other households
Transit (Bus)	52.4	18.6	81.4	10	43	2,459	1,085
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	24.7	75.3	0	0	0	0
Roadway maintenance	85.0	9.2	90.8	8	77	1,982	1,965
Roadway expansion	0.0	9.2	90.8	0	0	0	0
All modes total	137.4	--	--	18	120	4,441	3,050

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 43,247 households living in Nevada County, 3,968 earned <$30,000.

[d] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 6.11 Investment equity analysis from the Plumas County 2022 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	9.1	0.0	100.0	0	9	0	1,471
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	2.0	30.7	69.3	1	1	273	224
Roadway maintenance	99.2	11.9	88.1	12	87	5,279	14,125
Roadway expansion	0.0	11.9	88.1	0	0	0	0
All modes total	110.3	--	--	12	98	5,552	15,820

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 8,433 households living in Plumas County, 2,246 earned <$30,000.

[d] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 6.12 Investment equity analysis from the San Benito County Council of Governments 2020 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	income households[b]	All other households	Low-income households	All other households
Transit (Bus)	211.2	22.8	77.2	48	163	22,591	5,646
Transit (Rail)	0	0.0	100.0	0	0	0	0
Non-motorized	32	17.7	82.3	6	27	2,680	922
Roadway maintenance	361.9	6.0	94.0	22	340	10,208	11,782
Roadway expansion	1,214.5	6.0	94.0	73	1,141	34,252	39,536
All modes total	1,820.0	--	--	149	1,671	69,731	57,886

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 31,004 households living in San Benito County, 2,135 earned <$30,000.

[d] pp. 0-10, Figure 0-6, http://sanbenitocog.org/wp-content/uploads/2022/06/FINAL-RTP-6-16-2022-Complete.pdf

Table 6.13 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	930.0	35.5	64.5	330	600	21,307	5,401
Transit (Rail)	0.0	50.0	50.0	0	0	0	0
Non-motorized	184.0	30.7	69.3	57	127	3,645	1,148
Roadway maintenance	823.0	10.0	90.0	82	741	5,295	6,673
Roadway expansion	1,088.0	10.0	90.0	109	979	7,000	8,822
All modes total	3,025.0	--	--	577	2,448	37,246	22,045

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 126,527 households living in San Luis Obispo County, 15,503 earned <$30,000.

[d] p. 6-2, Table 6-1,
https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShar
ed%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DO
CS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%
20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga=1

Table 6.14 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	134.4	29.0	71.0	39	95	4,617	1,448
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	61.8	23.7	76.3	15	47	1,741	715
Roadway maintenance	2,493.4	14.2	85.8	355	2,139	42,068	32,440
Roadway expansion	6,349.0	14.2	85.8	903	5,446	107,118	82,602
All modes total	9,038.7	--	--	1,311	7,727	155,544	117,205

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 74,361 households living in Shasta County, 8,430 earned <$30,000.

[d] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 6.15 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	0.7	39.5	60.5	0	0	118	30
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	21.8	41.3	58.7	9	13	4,005	933
Roadway maintenance	564.3	18.0	82.0	102	463	45,260	33,727
Roadway expansion	0.0	18.0	82.0	0	0	0	0
All modes total	586.7	--	--	111	476	49,383	34,690

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 15,962 households living in Siskiyou County, 2,247 earned <$30,000.

[d] pp. 83-84, Tables 5.3-5.7, https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 6.16 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	2,578.1	25.0	75.0	645	1,933	23,917	9,389
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	643.7	27.6	72.4	178	466	6,589	2,263
Roadway maintenance	118.5	11.5	88.5	14	105	503	510
Roadway expansion	3,818.1	11.5	88.5	438	3,381	16,220	16,422
All modes total	7,158.4	--	--	1,274	5,884	47,230	28,584

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2016 CTPP, out of a total 232,835 households living in Stanislaus County, 26,979 earned <$30,000.

[d] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 6.17 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	16.0	28.6	71.4	5	11	1,361	536
Transit (Rail)	0.0	100.0	0.0	0	0	0	0
Non-motorized	1.0	68.2	31.8	1	0	203	15
Roadway maintenance	369.0	17.7	82.3	65	304	19,439	14,238
Roadway expansion	0.0	17.7	82.3	0	0	0	0
All modes total	386.0	--	--	71	315	21,002	14,789

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 24,688 households living in Tehama County, 3,360 earned <$30,000.

p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 6.18 CTPP 2023 mode data – race/ethnicity and mode equity analysis

Table 6.18 Investment equity analysis from Metropolitan Transportation Commission's (MTC's) 2014 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	180,000	66.0	34.0	118,844	61,156	23,854	21,970
Transit (Rail)	0	53.4	46.6	0	0	0	0
Non-motorized	19,200	49.2	50.8	9,452	9,748	1,897	3,502
Roadway maintenance	94,000	57.6	42.4	54,160	39,840	10,871	14,312
Roadway expansion	15,000	57.6	42.4	8,643	6,357	1,735	2,284
All modes total	308,200.0	--	--	191,100	117,100	38,358	42,068

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Census, out of a total 7,765,640 persons living in the 9-county Bay Area, 4,982,051 were non-white.

[c] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 6.19 Investment equity analysis from Sacramento Area Council of Governments'
(SACOG's) 2025 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020
Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	9,112.3	58.8	41.2	5,358	3,755	4,002	3,028
Transit (Rail)	5,914.2	46.6	53.4	2,753	3,161	2,057	2,549
Non-motorized	2,497.8	43.3	56.7	1,081	1,417	808	1,143
Roadway maintenance	11,078.3	43.7	56.3	4,838	6,240	3,614	5,033
Roadway expansion	16,776.5	43.7	56.3	7,326	9,450	5,473	7,622
All modes total	45,379.2	--	--	21,356	24,023	15,953	19,375

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Census, out of a total 2,578,590 persons living in the 6-county region, 1,338,680 were non-white.

[d] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 6.20 Investment equity analysis from Southern California Association of Governments'
(SCAG's) 2025 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020
Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	15,962.5	88.3	11.7	14,100	1,862	1,058	339
Transit (Rail)	0.0	67.4	32.6	0	0	0	0
Non-motorized	2,638.5	67.2	32.8	1,772	867	133	158
Roadway maintenance	4,708.6	66.0	34.0	3,106	1,603	233	292
Roadway expansion	16,321.2	66.0	34.0	10,766	5,555	808	1,011
All modes total	39,630.9	--	--	29,744.1	9,886.8	2,231.4	1,799.5

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 18,824,382 persons living in the 6-county SCAG region, 13,330,107 were non-white.

[c] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-

Table 6.21 Investment equity analysis from the Calaveras County Council of Governments 2021 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	2.0	0.0	100.0	0	2	0	58
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	13.8	86.2	0	1	13	25
Roadway maintenance	112.8	17.4	82.6	20	93	1,844	2,687
Roadway expansion	333.1	17.4	82.6	58	275	5,449	7,940
All modes total	448.9	--	--	78	371	7,306	10,710

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 45,292 persons living in Calaveras County, 10,624 were non-white.

[c] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 6.22 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	10.2	15.4	84.6	2	9	136	530
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	38.8	61.2	0	0	0	0
Roadway maintenance	0.0	28.0	72.0	0	0	0	0
Roadway expansion	266.1	28.0	72.0	74	192	6,481	11,790
All modes total	276.3	--	--	76	200	6,618	12,320

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 27,743 persons living in Del Norte County, 11,481 were non-white.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 6.23 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments[c] (Million $)	Share of workers using mode for journey to work[a] (%)		Share of investments (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	1,026	83.0	17.0	852	174	1,156	640
Transit (Rail)	0	82.8	17.2	0	0	0	0
Non-motorized	1,042	64.1	35.9	668	373	907	1,374
Roadway maintenance	2,328	65.1	34.9	1,516	812	2,058	2,986
Roadway expansion	1,630	65.1	34.9	1,062	568	1,441	2,090
All modes total	6,025.6	--	--	4,098	1,928	5,562	7,090

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 1,008,654 persons living in Fresno County, 736,765 were non-white.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 6.24 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	1.3	85.7	14.3	1	0	72	13
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.3	35.4	64.6	0	1	30	60
Roadway maintenance	52.6	47.3	52.7	25	28	1,658	1,993
Roadway expansion	0.0	47.3	52.7	0	0	0	0
All modes total	55.2	--	--	26	29	1,760	2,066

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 28,917 persons living in Glenn County, 15,020 were non-white.

[c] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 6.25 Investment equity analysis from Kings County's 2018 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	118.6	78.3	21.7	93	26	858	581
Transit (Rail)	0.0	100.0	0.0	0	0	0	0
Non-motorized	21.7	49.8	50.2	11	11	100	246
Roadway maintenance	361.9	60.9	39.1	220	142	2,037	3,193
Roadway expansion	193.9	60.9	39.1	118	76	1,091	1,711
All modes total	696.1	--	--	442	254	4,087	5,731

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 152,486 persons living in Kings County, 108,125 were non-white.

[c] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 6.26 Investment equity analysis from the Mariposa County 2022 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	3.5	50.0	50.0	2	2	408	136
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	30.3	69.7	0	1	70	54
Roadway maintenance	57.9	16.4	83.6	9	48	2,208	3,771
Roadway expansion	0.0	16.4	83.6	0	0	0	0
All modes total	62.4	--	--	12	51	2,686	3,961

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 17,131 persons living in Mariposa County, 4,293 were non-white.

[c] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 6.27 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	52.4	20.4	79.6	11	42	550	503
Transit (Rail)	0.0	33.3	66.7	0	0	0	0
Non-motorized	0.0	26.4	73.6	0	0	0	0
Roadway maintenance	85.0	14.7	85.3	13	73	645	876
Roadway expansion	0.0	14.7	85.3	0	0	0	0
All modes total	137.4	--	--	23	114	1,195	1,379

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 102,241 persons living in Nevada County, 19,431 were non-white.

[c] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 6.28 Investment equity analysis from the Plumas County 2022 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	9	40.0	60.0	4	5	242	393
Transit (Rail)	0	0.0	100.0	0	0	0	0
Non-motorized	2	19.4	80.6	0	2	26	116
Roadway maintenance	99	13.9	86.1	14	85	921	6,147
Roadway expansion	0	13.9	86.1	0	0	0	0
All modes total	110.3	--	--	18	92	1,189	6,656

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 28,917 persons living in Plumas County, 15,020 were non-white.

[c] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 6.29 Investment equity analysis from the San Benito County Council of Governments 2020 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	211	50.0	50.0	106	106	2,377	5,338
Transit (Rail)	0	5.7	94.3	0	0	0	0
Non-motorized	32	61.1	38.9	20	13	444	636
Roadway maintenance	362	60.2	39.8	218	144	4,905	7,280
Roadway expansion	1,214	60.2	39.8	731	483	16,459	24,429
All modes total	1,820.0	--	--	1,074	746	24,185	37,684

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 64,209 persons living in San Benito County, 44,424 were non-white.

[c] pp. E-30, FIGURE F-1.1, https://tularecog.org/tcag/planning/rtp/rtp-2022/chapter-e-financial-element/

Table 6.30 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	930.0	51.9	48.1	482	448	4,874	2,440
Transit (Rail)	0.0	6.2	93.8	0	0	0	0
Non-motorized	184.0	36.4	63.6	67	117	676	638
Roadway maintenance	823.0	29.4	70.6	242	581	2,445	3,167
Roadway expansion	1,088.0	29.4	70.6	320	768	3,232	4,187
All modes total	3,025.0	--	--	1,111	1,914	11,227	10,432

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 282,424 persons living in San Luis Obispo County, 98,956 were non-white.

[c] p. 6-2, Table 6-1,
https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga

Table 6.31 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[c] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	134.4	40.2	59.8	54	80	1,194	587
Transit (Rail)	0.0	100.0	0.0	0	0	0	0
Non-motorized	61.8	21.3	78.7	13	49	291	355
Roadway maintenance	2,493.4	17.9	82.1	447	2,047	9,868	14,952
Roadway expansion	6,349.0	17.9	82.1	1,137	5,212	25,127	38,071
All modes total	9,038.7	--	--	1,651	7,388	36,481	53,965

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 182,155 persons living in Shasta County, 45,261 were non-white.

[c] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 6.32 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	0.7	65.0	35.0	0	0	36	7
Transit (Rail)	0.0	100.0	0.0	0	0	0	0
Non-motorized	21.8	36.3	63.7	8	14	658	433
Roadway maintenance	564.3	18.3	81.7	104	461	8,612	14,373
Roadway expansion	0.0	18.3	81.7	0	0	0	0
All modes total	586.7	--	--	112	475	9,306	14,814

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 44,076 persons living in Siskiyou County, 12,019 were non-white.

[c] pp. 83-84, Tables 5.3-5.7,
https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 6.33 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	2,578.1	50.6	49.4	1,304	1,274	3,781	6,126
Transit (Rail)	0.0	79.1	20.9	0	0	0	0
Non-motorized	643.7	54.2	45.8	349	295	1,012	1,417
Roadway maintenance	118.5	53.4	46.6	63	55	184	266
Roadway expansion	3,818.1	53.4	46.6	2,040	1,779	5,912	8,555
All modes total	7,158.4	--	--	3,756	3,402	10,889	16,363

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 552,878 persons living in Stanislaus County, 344,970 were non-white.

[c] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 6.34 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2016 CTPP mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	16.0	5.7	94.3	1	15	37	365
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	34.8	65.2	0	1	14	16
Roadway maintenance	369.0	30.2	69.8	111	258	4,543	6,234
Roadway expansion	0.0	30.2	69.8	0	0	0	0
All modes total	386.0	--	--	113	273	4,595	6,615

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 65,829 persons living in Tehama County, 24,489 were non-white.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

CTPP 2023 mode data – transit dependent and mode equity analysis

Table 6.35 Investment equity analysis from Metropolitan Transportation Commission's (MTC's) 2014 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH
Transit (Bus)	180,000.0	27.1	72.9	48,797	131,203	185,181	52,024
Transit (Rail)	0.0	12.0	88.0	0	0	0	0
Non-motorized	19,200.0	23.3	76.7	4,471	14,729	16,967	5,840
Roadway maintenance	94,000.0	1.8	98.2	1,683	92,317	6,389	36,605
Roadway expansion	15,000.0	1.8	98.2	269	14,731	1,019	5,841
All modes total	308,200.0	--	--	55,220	252,980	209,556	100,310

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 2,785,482 workers in the 9-county Bay Area, 263,509 lived in 0-car households.

[c] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 6.36 Investment equity analysis from Sacramento Area Council of Governments' (SACOG's) 2025 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	9,112.3	19.7	80.3	1,791	7,321	32,672	8,296
Transit (Rail)	5,914.2	8.1	91.9	477	5,437	8,701	6,161
Non-motorized	2,497.8	13.0	87.0	325	2,173	5,928	2,462
Roadway maintenance	11,078.3	1.6	98.4	181	10,897	3,300	12,349
Roadway expansion	16,776.5	1.6	98.4	274	16,503	4,998	18,700
All modes total	45,379.2	--	--	3,048	42,331	55,599	47,968

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 937,307 workers living in the SACOG region, 54,822 lived in a 0-car household.

[c] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 6.37 Investment equity analysis from Southern California Association of Governments'
(SCAG's) 2025 RTP supplemented with 2016 CTPP mode share by worker household vehicles
and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	15,962.5	30.9	69.1	4,939	11,023	11,636	1,901
Transit (Rail)	0.0	11.0	89.0	0	0	0	0
Non-motorized	2,638.5	16.3	83.7	431	2,208	1,014	381
Roadway maintenance	4,708.6	1.6	98.4	74	4,635	174	799
Roadway expansion	16,321.2	1.6	98.4	256	16,065	603	2,771
All modes total	39,630.9	--	--	5,699.5	33,931.4	13,426.3	5,852.7

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 6,222,035 workers living in the SCAG region, 424,501 lived in a 0-car household.

[c] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-

Table 6.38 Investment equity analysis from the Calaveras County Council of Governments 2021
RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020
Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	2.0	0.0	100.0	0	2	0	116
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	26.2	73.8	0	1	672	42
Roadway maintenance	112.8	1.5	98.5	2	111	4,238	6,346
Roadway expansion	333.1	1.5	98.5	5	328	12,521	18,750
All modes total	448.9	--	--	7	442	17,431	25,254

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 17,897 workers living in Calveras County, 389 lived in 0-car households.

[c] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 6.39 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	10	69.2	30.8	7	3	11,592	348
Transit (Rail)	0	0.0	100.0	0	0	0	0
Non-motorized	0	34.3	65.7	0	0	0	0
Roadway maintenance	0	1.4	98.6	0	0	0	0
Roadway expansion	266	1.4	98.6	4	262	6,149	29,114
All modes total	276.3	--	--	11	266	17,741	29,462

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total of 9,621 workers in Tehama County, 608 lived in 0-car households.

[c] p. 76, Table 5.5, https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 6.40 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	1,026	39.9	60.1	409	617	17,757	2,062
Transit (Rail)	0	13.1	86.9	0	0	0	0
Non-motorized	1,042	19.8	80.2	206	835	8,954	2,793
Roadway maintenance	2,328	2.3	97.7	54	2,274	2,329	7,603
Roadway expansion	1,630	2.3	97.7	38	1,592	1,631	5,324
All modes total	6,025.6	--	--	707	5,319	30,671	17,782

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 322,163 workers in Fresno County, 23,037 lived in 0-car households.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 6.41 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	1.3	0.0	100.0	0	1	0	134
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.3	1.0	99.0	0	1	41	135
Roadway maintenance	52.6	2.9	97.1	2	51	4,940	5,401
Roadway expansion	0.0	2.9	97.1	0	0	0	0
All modes total	55.2	--	--	2	54	4,981	5,670

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 9,763 persons living in Glenn County, 306 lived in 0-car households.

[c] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 6.42 Investment equity analysis from Kings County's 2018 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	118.6	13.1	86.9	16	103	6,085	2,502
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	21.7	12.7	87.3	3	19	1,078	461
Roadway maintenance	361.9	1.8	98.2	7	355	2,591	8,628
Roadway expansion	193.9	1.8	98.2	4	190	1,388	4,622
All modes total	696.1	--	--	28	668	11,142	16,213

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 43,736 workers living in Mariposa County, 2,556 lived in 0-car households.

[c] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 6.43 Investment equity analysis from the Mariposa County 2022 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	3.5	13.3	86.7	0	3	1,014	430
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	7.8	92.2	0	1	170	131
Roadway maintenance	57.9	1.9	98.1	1	57	2,388	8,049
Roadway expansion	0.0	1.9	98.1	0	0	0	0
All modes total	62.4	--	--	2	61	3,572	8,610

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 7,515 workers living in Mariposa County, 460 lived in 0-car households.

[c] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 6.44 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	52.4	5.4	94.6	3	50	1,544	1,238
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	17.1	82.9	0	0	0	0
Roadway maintenance	85.0	0.8	99.2	1	84	365	2,107
Roadway expansion	0.0	0.8	99.2	0	0	0	0
All modes total	137.4	--	--	3	134	1,909	3,344

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 41,873 workers living in Nevada County, 1,824 were non-white.

[c] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 6.45 Investment equity analysis from the Plumas County 2022 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	9.1	0.0	100.0	0.0	9.1	0	1,178
Transit (Rail)	0.0	0.0	100.0	0.0	0.0	0	0
Non-motorized	2.0	20.0	80.0	0.4	1.6	1,220	207
Roadway maintenance	99.2	0.9	99.1	0.8	98.4	2,586	12,735
Roadway expansion	0.0	0.9	99.1	0.0	0.0	0	0
All modes total	110.3	--	--	1	109	3,806	14,119

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 8,055 workers living in Plumas County, 328 lived in 0-car households.

[c] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 6.46 Investment equity analysis from the San Benito County Council of Governments 2020 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH
Transit (Bus)	211	25.0	75.0	53	158	99,633	8,059
Transit (Rail)	0	0.0	100.0	0	0	0	0
Non-motorized	32	2.9	97.1	1	31	1,798	1,596
Roadway maintenance	362	0.8	99.2	3	359	5,626	18,260
Roadway expansion	1,214	0.8	99.2	10	1,204	18,878	61,272
All modes total	1,820.0	--	--	67	1,753	125,935	89,187

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 20,188 workers living in San Benito County, 530 lived in a 0-car household.

[c] pp. E-30, FIGURE F-1.1, https://tularecog.org/tcag/planning/rtp/rtp-2022/chapter-e-financial-element/

Table 6.47 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH
Transit (Bus)	930.0	11.9	88.1	111	819	25,319	7,839
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	184.0	10.2	89.8	19	165	4,306	1,580
Roadway maintenance	823.0	1.4	98.6	11	812	2,553	7,767
Roadway expansion	1,088.0	1.4	98.6	15	1,073	3,374	10,267
All modes total	3,025.0	--	--	155	2,870	35,552	27,454

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 108,897 workers in San Luis Obispo County, 4,366 lived in 0-car households.

[c] p. 6-2, Table 6-1, https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga=1

Table 6.48 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	134.4	18.8	81.3	25	109	5,728	1,628
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	61.8	15.3	84.7	9	52	2,151	781
Roadway maintenance	2,493.4	1.5	98.5	38	2,456	8,564	36,613
Roadway expansion	6,349.0	1.5	98.5	96	6,253	21,807	93,228
All modes total	9,038.7	--	--	168	8,870	38,250	132,250

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 71,473 workers in Shasta County, 4,400 lived in 0-car households.

[c] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 6.49 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	0.7	20.0	80.0	0	1	124	30
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	21.8	23.1	76.9	5	17	4,611	941
Roadway maintenance	564.3	1.4	98.6	8	557	7,008	31,243
Roadway expansion	0.0	1.4	98.6	0	0	0	0
All modes total	586.7	--	--	13	574	11,742	32,214

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 18,907 workers in Siskiyou County, 1,091 lived in 0-car households.

[c] pp. 83-84, Tables 5.3-5.7,
https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 6.50 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	2,578	27.1	72.9	699	1,879	75,030	11,241
Transit (Rail)	0	0.0	100.0	0	0	0	0
Non-motorized	644	12.2	87.8	79	565	8,458	3,379
Roadway maintenance	119	1.6	98.4	2	117	198	698
Roadway expansion	3,818	1.6	98.4	60	3,759	6,391	22,488
All modes total	7,158.4	--	--	840	6,319	90,078	37,807

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 176,457 workers in Stanislaus County, 9,320 lived in 0-car households.

[c] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 6.51 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2016 CTPP mode share by worker household vehicles and 2020 Census worker household vehicles data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	16.0	0.0	100.0	0	16	0	694
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	29.8	70.2	0	1	204	30
Roadway maintenance	369.0	0.6	99.4	2	367	1,503	15,902
Roadway expansion	0.0	0.6	99.4	0	0	0	0
All modes total	386.0	--	--	2	383	1,707	16,626

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 24,526 workers in Tehama County, 1,460 lived in 0-car households.

[c] p. 76, Table 5.5, https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

CTPP 2023 mode data – household with children and mode equity analysis

Table 6.52 Investment equity analysis from Metropolitan Transportation Commission's (MTC's) 2014 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out Children	HHs w-Children	HH's w-Out Children
Transit (Bus)	180,000.0	24.1	75.9	43,365	136,635	51,646	70,220
Transit (Rail)	0.0	28.7	71.3	0	0	0	0
Non-motorized	19,200.0	23.6	76.4	4,537	14,663	5,404	7,535
Roadway maintenance	94,000.0	38.3	61.7	36,034	57,966	42,915	29,790
Roadway expansion	15,000.0	38.3	61.7	5,750	9,250	6,848	4,754
All modes total	308,200.0	--	--	89,687	218,513	106,812	112,299

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 2,785,482 workers in the 9-county Bay Area, 839,667 had children.

[c] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 6.53 Investment equity analysis from Sacramento Area Council of Governments' (SACOG's) 2025 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a]		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	9,112.3	26.0	74.0	2,371	6,741	7,816	10,634
Transit (Rail)	5,914.2	35.7	64.3	2,112	3,802	6,961	5,998
Non-motorized	2,497.8	28.0	72.0	699	1,799	2,303	2,838
Roadway maintenance	11,078.3	40.2	59.8	4,459	6,619	14,698	10,442
Roadway expansion	16,776.5	40.2	59.8	6,752	10,024	22,258	15,813
All modes total	45,379.2	--	--	16,393	28,986	54,035	45,724

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 937,307 households in the 6-county SACOG region, 303,379 had children.

[c] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 6.54 Investment equity analysis from Southern California Association of Governments' (SCAG's) 2025 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	15,962.5	35.4	64.6	5,654	10,308	2,782	2,460
Transit (Rail)	0.0	27.5	72.5	0	0	0	0
Non-motorized	2,638.5	32.5	67.5	856	1,782	421	425
Roadway maintenance	4,708.6	38.1	61.9	1,792	2,916	882	696
Roadway expansion	16,321.2	38.1	61.9	6,213	10,108	3,057	2,413
All modes total	39,630.9	--	--	14,516.1	25,114.8	7,141.8	5,994.7

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 6,222,035 households in the 6-county SCAG region, 2,032,546 had children.

[c] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-summary.pdf?1725569135

Table 6.55 Investment equity analysis from the Calaveras County Council of Governments 2021 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	2.0	37.0	63.0	1	1	207	90
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	41.5	58.5	0	1	114	41
Roadway maintenance	112.8	30.8	69.2	35	78	9,572	5,466
Roadway expansion	333.1	30.8	69.2	103	230	28,281	16,151
All modes total	448.9	--	--	139	310	38,174	21,748

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 17,897 households in Calaveras County, 3,634 had children.

[c] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 6.56 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	from HHs w-out children	HHs w-children	HH's w-out children
Transit (Bus)	10.2	0.0	100.0	0	10	0	1,487
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	23.9	76.1	0	0	0	0
Roadway maintenance	0.0	38.4	61.6	0	0	0	0
Roadway expansion	266.1	38.4	61.6	102	164	36,797	23,956
All modes total	276.3	--	--	102	174	36,797	25,444

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 9,621 households in Del Norte County, 2,777 had children.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 6.57 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out children	HHs w-children	HH's w-out children
Transit (Bus)	1,026.0	38.6	61.4	396	630	3,124	3,224
Transit (Rail)	0.0	55.2	44.8	0	0	0	0
Non-motorized	1,041.6	32.2	67.8	335	707	2,645	3,614
Roadway maintenance	2,328.0	43.5	56.5	1,012	1,316	7,994	6,729
Roadway expansion	1,630.0	43.5	56.5	709	921	5,597	4,711
All modes total	6,025.6	--	--	2,452	3,574	19,361	18,278

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 322,163 households in Fresno County, 126,630 had children.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 6.58 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	1.3	57.1	42.9	1	1	211	86
Transit (Rail)	0.0	45.7	54.3	0	0	0	0
Non-motorized	1.3	45.7	54.3	1	1	172	111
Roadway maintenance	52.6	50.0	50.0	26	26	7,657	4,155
Roadway expansion	0.0	50.0	50.0	0	0	0	0
All modes total	55.2	--	--	28	28	8,040	4,351

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 9,763 households in Glenn County, 3,434 had children.

[c] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 6.59 Investment equity analysis from Kings County's 2018 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	118.6	8.2	91.8	10	109	514	4,386
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	21.7	40.7	59.3	9	13	467	519
Roadway maintenance	361.9	48.8	51.2	177	185	9,336	7,467
Roadway expansion	193.9	48.8	51.2	95	99	5,001	4,000
All modes total	696.1	--	--	289.7	406.4	15,318	16,372

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 43,736 households in Kings County, 18,912 had children.

[c] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 6.60 Investment equity analysis from the Mariposa County 2022 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	3.5	13.3	86.7	0	3	135	861
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	25.0	75.0	0	1	73	213
Roadway maintenance	57.9	37.8	62.2	22	36	6,345	10,220
Roadway expansion	0.0	37.8	62.2	0	0	0	0
All modes total	62.4	--	--	23	40	6,553	11,294

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 6,970 households in Mariposa County, 3,445 had children.

[c] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 6.61 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out children	HHs w-children	HH's w-out children
Transit (Bus)	52.4	18.3	81.7	10	43	996	1,327
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	25.6	74.4	0	0	0	0
Roadway maintenance	85.0	32.6	67.4	28	57	2,881	1,778
Roadway expansion	0.0	32.6	67.4	0	0	0	0
All modes total	137.4	--	--	37	100	3,877	3,104

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 41,873 households in Nevada County, 9,611 had children.

[c] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 6.62 Investment equity analysis from the Plumas County 2022 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	9	0.0	100.0	0	9	0	1,453
Transit (Rail)	0	0.0	100.0	0	0	0	0
Non-motorized	2	49.1	50.9	1	1	548	163
Roadway maintenance	99	33.3	66.7	33	66	18,408	10,579
Roadway expansion	0	33.3	66.7	0	0	0	0
All modes total	110.3	--	--	34	76	18,956	12,194

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 8,055 households in Plumas County, 1,793 had children.

[c] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 6.63 Investment equity analysis from the San Benito County Council of Governments 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w- Children	Workers from HHs w-out Children	Workers from HHs w-	Workers from HHs w-out Children	HHs w- Children	HH's w-Out Children
Transit (Bus)	211.2	25.0	75.0	53	158	6,271	13,463
Transit (Rail)	0.0	42.9	57.1	0	0	0	0
Non-motorized	32.3	28.4	71.6	9	23	1,091	1,967
Roadway maintenance	361.9	46.8	53.2	169	193	20,106	16,369
Roadway expansion	1,214.5	46.8	53.2	568	646	67,469	54,928
All modes total	1,820.0	--	--	799	1,021	94,937	86,727

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 20,188 households in San Benito County, 8,421 had children.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 6.64 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w- children	Workers from HHs w-out children	Workers from HHs w- children	Workers from HHs w-out	HHs w- children	HH's w-out children
Transit (Bus)	930.0	23.5	76.5	219	711	8,425	8,576
Transit (Rail)	0.0	23.1	76.9	0	0	0	0
Non-motorized	184.0	24.6	75.4	45	139	1,747	1,672
Roadway maintenance	823.0	34.2	65.8	281	542	10,828	6,534
Roadway expansion	1,088.0	34.2	65.8	372	716	14,315	8,638
All modes total	3,025.0	--	--	917	2,108	35,316	25,420

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 108,897 households in San Luis Obispo County, 25,956 had children.

[c] p. 6-2, Table 6-1,
https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga=1

Table 6.65 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	134.4	18.8	81.3	25	109	1,335	2,076
Transit (Rail)	0.0	100.0	0.0	0	0	0	0
Non-motorized	61.8	25.9	74.1	16	46	847	872
Roadway maintenance	2,493.4	32.5	67.5	809	1,684	42,865	32,023
Roadway expansion	6,349.0	32.5	67.5	2,060	4,289	109,146	81,539
All modes total	9,038.7	--	--	2,911	6,128	154,192	116,510

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 71,473 households in Shasta County, 18,878 had children.

[c] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 6.66 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	1	33.3	66.7	0	0	50	31
Transit (Rail)	0	0.0	100.0	0	0	0	0
Non-motorized	22	22.9	77.1	5	17	1,108	1,167
Roadway maintenance	564	35.0	65.0	198	367	43,781	25,471
Roadway expansion	0	35.0	65.0	0	0	0	0
All modes total	586.7	--	--	203	384	44,939	26,669

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 18,907 households in Siskiyou County, 4,516 had children.

[c] pp. 83-84, Tables 5.3-5.7, https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 6.67 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	2,578.1	35.0	65.0	901	1,677	13,309	15,421
Transit (Rail)	0.0	38.1	61.9	0	0	0	0
Non-motorized	643.7	38.2	61.8	246	398	3,630	3,659
Roadway maintenance	118.5	45.5	54.5	54	65	796	594
Roadway expansion	3,818.1	45.5	54.5	1,736	2,082	25,632	19,150
All modes total	7,158.4	--	--	2,937	4,221	43,367	38,823

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 176,457 households in Stanislaus County, 67,734 had children.

[c] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 6.68 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2016 CTPP mode share by worker households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	16.0	100.0	0.0	16	0	1,976	0
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	38.2	61.8	0	1	47	38
Roadway maintenance	369.0	39.0	61.0	144	225	17,751	13,710
Roadway expansion	0.0	39.0	61.0	0	0	0	0
All modes total	386.0	--	--	160	226	19,775	13,748

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 24,526 households in Tehama County, 8,097 had children.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

7. Appendix B: PUMS-Based Investment Equity Analysis Results

7.1 PUMS 2023 mode data – low-income and mode equity analysis

Table 7.1 Investment equity analysis from the Metropolitan Transportation Commission (MTC) 2014 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	180,000.0	17.9	82.1	32,156	147,844	128,033	43,534
Transit (Rail)	0.0	6.9	93.1	0	0	0	0
Non-motorized	19,200.0	20.1	79.9	3,853	15,347	15,340	4,519
Roadway maintenance	94,000.0	14.4	85.6	13,493	80,507	53,725	23,706
Roadway expansion	15,000.0	14.4	85.6	2,153	12,847	8,573	3,783
All modes total	308,200.0	--	--	51,655	256,545	205,671	75,541

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 3,396,089 households living in the 9-county Bay Area, 251,153 earned <$30,000.

[d] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 7.2 Investment equity analysis from the Sacramento Area Council of Governments (SACOG) 2025 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	9,112.3	20.1	79.9	1,836	7,276	15,594	6,848
Transit (Rail)	5,914.2	17.4	82.6	1,028	4,886	8,730	4,599
Non-motorized	2,497.8	20.1	79.9	501	1,997	4,257	1,879
Roadway maintenance	11,078.3	14.4	85.6	1,590	9,488	13,507	8,930
Roadway expansion	16,776.5	14.4	85.6	2,408	14,368	20,455	13,523
All modes total	45,379.2	--	--	7,363	38,016	62,544	35,778

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 1,180,269 households living in the 6-county SACOG region, 117,731 earned <$30,000.

[d] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 7.3 Investment equity analysis from the Southern California Association of Governments (SCAG) 2025 RTIP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	15,962.5	40.1	59.9	6,394	9,569	6,792	1,232
Transit (Rail)	0.0	16.5	83.5	0	0	0	0
Non-motorized	2,638.5	20.1	79.9	529	2,109	562	272
Roadway maintenance	4,708.6	14.4	85.6	676	4,033	718	519
Roadway expansion	16,321.2	14.4	85.6	2,343	13,978	2,489	1,800
All modes total	39,630.9	--	--	9,942	29,689	10,561	3,824

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 8,705,078 households living in the 6-county SCAG region, 941,442 earned <$30,000.

[d] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-summary.pdf?1725569135

Table 7.4 Investment equity analysis from the Calaveras County Council of Governments 2021 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	households	Low-income households	All other households
Transit (Bus)	2.0	37.7	62.3	1	1	485	79
Transit (Rail)	0.0	37.7	62.3	0	0	0	0
Non-motorized	1.0	20.1	79.9	0	1	127	50
Roadway maintenance	112.8	14.4	85.6	16	97	10,263	6,020
Roadway expansion	333.1	14.4	85.6	48	285	30,324	17,788
All modes total	448.9	--	--	65	384	41,199	23,937

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 17,617 households living in Calveras County, 1,577 earned <$30,000.

[d] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 7.5 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	10.2	9.8	90.2	1	9	825	1,042
Transit (Rail)	0.0	9.8	90.2	0	0	0	0
Non-motorized	0.0	29.2	70.8	0	0	0	0
Roadway maintenance	0.0	17.8	82.2	0	0	0	0
Roadway expansion	266.1	17.8	82.2	47	219	39,208	24,819
All modes total	276.3	--	--	48	228	40,032	25,861

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 10,022 households living in Del Norte County, 1,210 earned <$30,000.

[d] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 7.6 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	income households[b]	All other households	Low-income households	All other households
Transit (Bus)	1,026.0	59.0	41.0	605	421	9,152	1,215
Transit (Rail)	0.0	59.0	41.0	0	0	0	0
Non-motorized	1,041.6	38.3	61.7	399	643	6,033	1,855
Roadway maintenance	2,328.0	24.7	75.3	575	1,753	8,696	5,061
Roadway expansion	1,630.0	24.7	75.3	403	1,227	6,089	3,544
All modes total	6,025.6	--	--	1,982	4,044	29,971	11,675

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 412,493 households living in San Joaquin County, 66,128 earned <$30,000.

[d] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 7.7 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	1.3	29.3	70.7	0.4	0.9	219	83
Transit (Rail)	0.0	29.3	70.7	0.0	0.0	0	0
Non-motorized	1.3	35.3	64.7	0.5	0.8	269	77
Roadway maintenance	52.6	21.4	78.6	11.3	41.3	6,668	3,814
Roadway expansion	0.0	21.4	78.6	0.0	0.0	0	0
All modes total	55.2	--	--	12	43	7,157	3,974

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 12,532 households living in Glenn County, 1,691 earned <$30,000.

[d] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 7.8 Investment equity analysis from Kings County's 2018 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	118.6	39.4	60.6	47	72	5,064	1,543
Transit (Rail)	0	39.4	60.6	0	0	0	0
Non-motorized	22	20.1	79.9	4	17	472	373
Roadway maintenance	361.9	14.4	85.6	52	310	5,632	6,653
Roadway expansion	194	14.4	85.6	28	166	3,017	3,564
All modes total	696.1	--	--	131	565	14,185	12,132

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 55,819 households living in Kings County, 9,225 earned <$30,000.

[d] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 7.9 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	52.4	0.0	100.0	0	52	0	1,333
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	24.7	75.3	0	0	0	0
Roadway maintenance	85.0	9.2	90.8	8	77	1,982	1,965
Roadway expansion	0.0	9.2	90.8	0	0	0	0
All modes total	137.4	--	--	8	130	1,982	3,298

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 43,247 households living in Nevada County, 3,968 earned <$30,000.

[d] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 7.10 Investment equity analysis from the Mariposa County 2022 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	3.5	37.7	62.3	1	2	1,146	356
Transit (Rail)	0.0	37.7	62.3	0	0	0	0
Non-motorized	1.0	20.1	79.9	0	1	174	131
Roadway maintenance	57.9	14.4	85.6	8	50	7,219	8,103
Roadway expansion	0.0	14.4	85.6	0	0	0	0
All modes total	62.4	--	--	10	53	8,540	8,590

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 7,269 households living in Mariposa County, 1,151 earned <$30,000.

[d] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 7.11 Investment equity analysis from the Plumas County 2022 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	9.1	9.8	90.2	1	8	397	1,327
Transit (Rail)	0.0	9.8	90.2	0	0	0	0
Non-motorized	2.0	29.2	70.8	1	1	260	229
Roadway maintenance	99.2	17.8	82.2	18	82	7,877	13,182
Roadway expansion	0.0	17.8	82.2	0	0	0	0
All modes total	110.3	--	--	19	91	8,534	14,738

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 8,433 households living in Plumas County, 2,246 earned <$30,000.

[d] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 7.12 Investment equity analysis from the San Benito County Council of Governments 2020 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	211.2	33.4	66.6	71	141	33,039	4,873
Transit (Rail)	0	33.4	66.6	0	0	0	0
Non-motorized	32	20.1	79.9	6	26	3,039	895
Roadway maintenance	361.9	14.4	85.6	52	310	24,334	10,737
Roadway expansion	1,214.5	14.4	85.6	174	1,040	81,655	36,030
All modes total	1,820.0	--	--	303	1,517	142,066	52,536

[a] PUMS 2023 data for Monterey County

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 31,004 households living in San Benito County, 2,135 earned <$30,000.

[d] pp. 0-10, Figure 0-6, http://sanbenitocog.org/wp-content/uploads/2022/06/FINAL-RTP-6-16-2022-Complete.pdf

Table 7.13 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	income households	All other households	Low-income households	All other households
Transit (Bus)	930.0	26.5	73.5	247	683	15,923	6,153
Transit (Rail)	0.0	26.5	73.5	0	0	0	0
Non-motorized	184.0	20.7	79.3	38	146	2,454	1,315
Roadway maintenance	823.0	12.1	87.9	99	724	6,414	6,517
Roadway expansion	1,088.0	12.1	87.9	131	957	8,479	8,616
All modes total	3,025.0	--	--	516	2,509	33,270	22,601

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 126,527 households living in San Luis Obispo County, 15,503 earned <$30,000.

[d] p. 6-2, Table 6-1, https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga=1

Table 7.14 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	134.4	12.0	88.0	16	118	1,921	1,793
Transit (Rail)	0.0	12.0	88.0	0	0	0	0
Non-motorized	61.8	24.4	75.6	15	47	1,788	709
Roadway maintenance	2,493.4	16.5	83.5	410	2,083	48,682	31,594
Roadway expansion	6,349.0	16.5	83.5	1,045	5,304	123,958	80,448
All modes total	9,038.7	--	--	1,487	7,552	176,349	114,545

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 74,361 households living in Shasta County, 8,430 earned <$30,000.

[d] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 7.15 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2016 CTPP mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	0.7	9.8	90.2	0	1	29	44
Transit (Rail)	0.0	9.8	90.2	0	0	0	0
Non-motorized	21.8	29.2	70.8	6	15	2,833	1,125
Roadway maintenance	564.3	17.8	82.2	101	464	44,763	33,808
Roadway expansion	0.0	17.8	82.2	0	0	0	0
All modes total	586.7	--	--	107	480	47,625	34,978

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 15,962 households living in Siskiyou County, 2,247 earned <$30,000.

[d] pp. 83-84, Tables 5.3-5.7, https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 7.16 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	2,578.1	15.6	84.4	401	2,177	14,868	10,575
Transit (Rail)	0.0	15.6	84.4	0	0	0	0
Non-motorized	643.7	30.5	69.5	196	447	7,272	2,174
Roadway maintenance	118.5	19.8	80.2	23	95	871	462
Roadway expansion	3,818.1	19.8	80.2	757	3,061	28,047	14,872
All modes total	7,158.4	--	--	1,377	5,781	51,058	28,082

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2016 CTPP, out of a total 232,835 households living in Stanislaus County, 26,979 earned <$30,000.

[d] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 7.17 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2023 PUMS mode share by household income and 2023 ACS household income data.

Mode Category	Total RTP Investments (Million $)[d]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[c] for each mode ($)	
		Low-income households[b]	All other households	Low-income households[b]	All other households	Low-income households	All other households
Transit (Bus)	16.0	29.3	70.7	5	11	1,394	531
Transit (Rail)	0.0	29.3	70.7	0	0	0	0
Non-motorized	1.0	35.3	64.7	0	1	105	30
Roadway maintenance	369.0	21.4	78.6	79	290	23,544	13,591
Roadway expansion	0.0	21.4	78.6	0	0	0	0
All modes total	386.0	--	--	84	302	25,042	14,152

[a] PUMS 2023 data

[b] Earning <$30,000/year.

[c] According to the 2023 ACS, out of a total 24,688 households living in Tehama County, 3,360 earned <$30,000.

[d] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

7.2 PUMS 2023 mode data – race/ethnicity and mode equity analysis

Table 7.18 Investment equity analysis from the Metropolitan Transportation Commission (MTC) 2014 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census person race/ethnicity data.

Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	180,000	72.7	27.3	130,819	49,181	26,258	17,668
Transit (Rail)	0	64.3	35.7	0	0	0	0
Non-motorized	19,200	54.9	45.1	10,536	8,664	2,115	3,113
Roadway maintenance	94,000	66.4	33.6	62,376	31,624	12,520	11,361
Roadway expansion	15,000	66.4	33.6	9,954	5,046	1,998	1,813
All modes total	308,200.0	--	--	213,684	94,516	42,891	33,955

[a] PUMS 2023 data

[b] According to the 2023 ACS, out of a total 7,765,640 persons living in the 9-county Bay Area, 4,982,051 were non-white.

[c] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 7.19 Investment equity analysis from the Sacramento Area Council of Governments (SACOG) 2025 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census person race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	9,112.3	66.1	33.9	6,020	3,092	4,497	2,494
Transit (Rail)	5,914.2	58.9	41.1	3,485	2,430	2,603	1,960
Non-motorized	2,497.8	50.3	49.7	1,257	1,241	939	1,001
Roadway maintenance	11,078.3	51.5	48.5	5,706	5,372	4,262	4,333
Roadway expansion	16,776.5	51.5	48.5	8,641	8,136	6,455	6,562
All modes total	45,379.2	--	--	25,108	20,271	18,756	16,349

[a] PUMS 2023 data

[b] According to the 2023 ACS, out of a total 2,578,590 persons living in the 6-county region, 1,338,680 were non-white.

[c] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 7.20 Investment equity analysis from the Southern California Association of Governments (SCAG) 2025 RTIP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	15,962.5	89.1	10.9	14,228	1,735	1,067	316
Transit (Rail)	0.0	74.6	25.4	0	0	0	0
Non-motorized	2,638.5	67.8	32.2	1,790	849	134	155
Roadway maintenance	4,708.6	72.6	27.4	3,417	1,291	256	235
Roadway expansion	16,321.2	72.6	27.4	11,845	4,476	889	815
All modes total	39,630.9	--	--	31,279.9	8,351.0	2,346.6	1,519.9

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 18,824,382 persons living in the 6-county SCAG region, 13,330,107 were non-white.

[c] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-summary.pdf?1725569135

Table 7.21 Investment equity analysis from the Calaveras County Council of Governments 2021 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	2.0	62.1	37.9	1	1	119	22
Transit (Rail)	0.0	62.1	37.9	0	0	0	0
Non-motorized	1.0	31.5	68.5	0	1	30	20
Roadway maintenance	112.8	25.7	74.3	29	84	2,726	2,417
Roadway expansion	333.1	25.7	74.3	86	248	8,055	7,141
All modes total	448.9	--	--	116	333	10,929	9,600

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 45,292 persons living in Calaveras County, 10,624 were non-white.

[c] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 7.22 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	10.2	61.3	38.7	6	4	543	243
Transit (Rail)	0.0	61.3	38.7	0	0	0	0
Non-motorized	0.0	23.0	77.0	0	0	0	0
Roadway maintenance	0.0	23.5	76.5	0	0	0	0
Roadway expansion	266.1	23.5	76.5	62	204	5,439	12,526
All modes total	276.3	--	--	69	208	5,983	12,768

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 27,743 persons living in Del Norte County, 11,481 were non-white.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 7.23 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2023 Census race/ethnicity data.

Mode Category	Total RTP Investments [c] (Million $)	Share of workers using mode for journey to work [a] (%)		Share of investments (Million $)		Per person investments [b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	1,026	70.3	29.7	721	305	979	1,121
Transit (Rail)	0	70.3	29.7	0	0	0	0
Non-motorized	1,042	67.7	32.3	705	336	958	1,236
Roadway maintenance	2,328	71.3	28.7	1,660	668	2,253	2,456
Roadway expansion	1,630	71.3	28.7	1,162	468	1,578	1,720
All modes total	6,025.6	--	--	4,249	1,776	5,767	6,534

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 1,008,654 persons living in Fresno County, 736,765 were non-white.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 7.24 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $) [c]	Share of workers using mode for journey to work [a] (%)		Share of investments for each mode (Million $)		Per person investments [b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	1.3	72.8	27.2	1	0	61	25
Transit (Rail)	0.0	72.8	27.2	0	0	0	0
Non-motorized	1.3	33.4	66.6	0	1	29	62
Roadway maintenance	52.6	47.8	52.2	25	27	1,673	1,976
Roadway expansion	0.0	47.8	52.2	0	0	0	0
All modes total	55.2	--	--	26	29	1,764	2,062

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 28,917 persons living in Glenn County, 15,020 were non-white.

[c] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 7.25 Investment equity analysis from Kings County's 2018 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	118.6	13.9	86.1	16	102	153	2,301
Transit (Rail)	0.0	13.9	86.1	0	0	0	0
Non-motorized	21.7	57.9	42.1	13	9	116	206
Roadway maintenance	361.9	66.4	33.6	240	121	2,224	2,738
Roadway expansion	193.9	66.4	33.6	129	65	1,192	1,467
All modes total	696.1	--	--	398	298	3,685	6,711

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 152,486 persons living in Kings County, 108,125 were non-white.

[c] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 7.26 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	52.4	79.4	20.6	42	11	2,141	130
Transit (Rail)	0.0	79.4	20.6	0	0	0	0
Non-motorized	0.0	21.6	78.4	0	0	0	0
Roadway maintenance	85.0	21.1	78.9	18	67	924	810
Roadway expansion	0.0	21.1	78.9	0	0	0	0
All modes total	137.4	--	--	60	78	3,064	941

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 102,241 persons living in Nevada County, 19,431 were non-white.

[c] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 7.27 Investment equity analysis from the Mariposa County 2022 RTP supplemented with
2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	3.5	62.1	37.9	2	1	506	103
Transit (Rail)	0.0	62.1	37.9	0	0	0	0
Non-motorized	1.0	31.5	68.5	0	1	73	53
Roadway maintenance	57.9	25.7	74.3	15	43	3,464	3,351
Roadway expansion	0.0	25.7	74.3	0	0	0	0
All modes total	62.4	--	--	17	45	4,043	3,507

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 17,131 persons living in Mariposa County, 4,293 were non-white.

[c] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 7.28 Investment equity analysis from the Plumas County 2022 RTP supplemented with
2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	9	61.3	38.7	6	4	371	254
Transit (Rail)	0	61.3	38.7	0	0	0	0
Non-motorized	2	23.0	77.0	0	2	31	111
Roadway maintenance	99	23.5	76.5	23	76	1,550	5,466
Roadway expansion	0	23.5	76.5	0	0	0	0
All modes total	110.3	--	--	29	81	1,952	5,830

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 28,917 persons living in Plumas County, 15,020 were non-white.

[c] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 7.29 Investment equity analysis from the San Benito County Council of Governments 2020 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	211	65.2	34.8	138	74	3,099	3,717
Transit (Rail)	0	65.2	34.8	0	0	0	0
Non-motorized	32	43.6	56.4	14	18	318	921
Roadway maintenance	362	63.1	36.9	228	134	5,141	6,750
Roadway expansion	1,214	63.1	36.9	766	448	17,251	22,649
All modes total	1,820.0	--	--	1,147	673	25,809	34,038

[a] PUMS 2023 data for Monterey County

[b] According to the 2020 Decenial Census, out of a total 64,209 persons living in San Benito County, 44,424 were non-white.

[c] pp. E-30, FIGURE F-1.1, https://tularecog.org/tcag/planning/rtp/rtp-2022/chapter-e-financial-element/

Table 7.30 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	930.0	47.6	52.4	443	487	4,475	2,655
Transit (Rail)	0.0	47.6	52.4	0	0	0	0
Non-motorized	184.0	28.0	72.0	51	133	520	722
Roadway maintenance	823.0	36.2	63.8	298	525	3,009	2,863
Roadway expansion	1,088.0	36.2	63.8	394	694	3,978	3,784
All modes total	3,025.0	--	--	1,186	1,839	11,983	10,025

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 282,424 persons living in San Luis Obispo County, 98,956 were non-white.

[c] p. 6-2, Table 6-1, https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga=1

Table 7.31 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[c] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	134.4	28.6	71.4	38	96	848	701
Transit (Rail)	0.0	28.6	71.4	0	0	0	0
Non-motorized	61.8	26.1	73.9	16	46	356	334
Roadway maintenance	2,493.4	22.8	77.2	569	1,924	12,582	14,054
Roadway expansion	6,349.0	22.8	77.2	1,450	4,899	32,038	35,786
All modes total	9,038.7	--	--	2,074	6,965	45,825	50,876

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 182,155 persons living in Shasta County, 45,261 were non-white.

[c] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 7.32 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	0.7	61.3	38.7	0	0	34	8
Transit (Rail)	0.0	61.3	38.7	0	0	0	0
Non-motorized	21.8	23.0	77.0	5	17	417	524
Roadway maintenance	564.3	23.5	76.5	132	432	11,016	13,472
Roadway expansion	0.0	23.5	76.5	0	0	0	0
All modes total	586.7	--	--	138	449	11,467	14,004

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 44,076 persons living in Siskiyou County, 12,019 were non-white.

[c] pp. 83-84, Tables 5.3-5.7,
https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 7.33 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	2,578.1	71.3	28.7	1,839	739	5,331	3,555
Transit (Rail)	0.0	71.3	28.7	0	0	0	0
Non-motorized	643.7	56.0	44.0	360	283	1,044	1,363
Roadway maintenance	118.5	62.6	37.4	74	44	215	213
Roadway expansion	3,818.1	62.6	37.4	2,390	1,428	6,929	6,868
All modes total	7,158.4	--	--	4,664	2,495	13,519	11,999

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 552,878 persons living in Stanislaus County, 344,970 were non-white.

[c] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 7.34 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2023 PUMS mode share by race/ethnicity and 2020 Census race/ethnicity data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	16.0	72.8	27.2	12	4	476	105
Transit (Rail)	0.0	72.8	27.2	0	0	0	0
Non-motorized	1.0	33.4	66.6	0	1	14	16
Roadway maintenance	369.0	47.8	52.2	176	193	7,201	4,660
Roadway expansion	0.0	47.8	52.2	0	0	0	0
All modes total	386.0	--	--	188	198	7,690	4,781

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 65,829 persons living in Tehama County, 24,489 were non-white.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

7.3 PUMS 2023 mode data – transit dependents and mode equity analysis

Table 7.35 Investment equity analysis from the Metropolitan Transportation Commission (MTC) 2014 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	180,000.0	28.5	71.5	51,304	128,696	194,696	51,030
Transit (Rail)	0.0	15.2	84.8	0	0	0	0
Non-motorized	19,200.0	21.2	78.8	4,069	15,131	15,443	6,000
Roadway maintenance	94,000.0	2.1	97.9	1,966	92,034	7,460	36,493
Roadway expansion	15,000.0	2.1	97.9	314	14,686	1,190	5,823
All modes total	308,200.0	--	--	57,653	250,547	218,789	99,346

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 2,785,482 workers in the 9-county Bay Area, 263,509 lived in 0-car households.

[c] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 7.36 Investment equity analysis from the Sacramento Area Council of Governments (SACOG) 2025 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	9,112.3	24.4	75.6	2,225	6,887	40,592	7,804
Transit (Rail)	5,914.2	8.0	92.0	473	5,441	8,636	6,165
Non-motorized	2,497.8	13.4	86.6	334	2,164	6,085	2,452
Roadway maintenance	11,078.3	1.8	98.2	199	10,879	3,638	12,328
Roadway expansion	16,776.5	1.8	98.2	302	16,474	5,510	18,668
All modes total	45,379.2	--	--	3,534	41,845	64,462	47,418

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 937,307 workers living in the SACOG region, 54,822 lived in a 0-car household.

[c] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 7.37 Investment equity analysis from the Southern California Association of Governments (SCAG) 2025 RTIP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per person investments[b] for each mode ($)	
		Non-white workers	White workers	Non-white workers	White workers	Non-white persons	White persons
Transit (Bus)	15,962.5	89.1	10.9	14,228	1,735	1,067	316
Transit (Rail)	0.0	74.6	25.4	0	0	0	0
Non-motorized	2,638.5	67.8	32.2	1,790	849	134	155
Roadway maintenance	4,708.6	72.6	27.4	3,417	1,291	256	235
Roadway expansion	16,321.2	72.6	27.4	11,845	4,476	889	815
All modes total	39,630.9	--	--	31,279.9	8,351.0	2,346.6	1,519.9

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 18,824,382 persons living in the 6-county SCAG region, 13,330,107 were non-white.

[c] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-summary.pdf?1725569135

Table 7.38 Investment equity analysis from the Calaveras County Council of Governments 2021 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	2.0	27.2	72.8	1	1	1,419	84
Transit (Rail)	0.0	27.2	72.8	0	0	0	0
Non-motorized	1.0	9.4	90.6	0	1	242	52
Roadway maintenance	112.8	1.6	98.4	2	111	4,751	6,334
Roadway expansion	333.1	1.6	98.4	5	328	14,038	18,716
All modes total	448.9	--	--	8	441	20,450	25,186

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 17,897 workers living in Calveras County, 389 lived in 0-car households.

[c] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 7.39 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	10	7.8	92.2	1	9	1,313	1,041
Transit (Rail)	0	7.8	92.2	0	0	0	0
Non-motorized	0	13.7	86.3	0	0	0	0
Roadway maintenance	0	1.2	98.8	0	0	0	0
Roadway expansion	266	1.2	98.8	3	263	5,233	29,176
All modes total	276.3	--	--	4	272	6,547	30,217

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total of 9,621 workers in Tehama County, 608 lived in 0-car households.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 7.40 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	1,026	20.2	79.8	207	819	8,997	2,737
Transit (Rail)	0	20.2	79.8	0	0	0	0
Non-motorized	1,042	12.1	87.9	126	916	5,465	3,061
Roadway maintenance	2,328	1.9	98.1	43	2,285	1,882	7,638
Roadway expansion	1,630	1.9	98.1	30	1,600	1,317	5,348
All modes total	6,025.6	--	--	407	5,619	17,661	18,784

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 322,163 workers in Fresno County, 23,037 lived in 0-car households.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 7.41 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	1.3	0.0	100.0	0	1	0	134
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.3	7.8	92.2	0	1	327	126
Roadway maintenance	52.6	1.5	98.5	1	52	2,558	5,478
Roadway expansion	0.0	1.5	98.5	0	0	0	0
All modes total	55.2	--	--	1	54	2,885	5,738

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 9,763 persons living in Glenn County, 306 lived in 0-car households.

[c] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 7.42 Investment equity analysis from Kings County's 2018 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	118.6	0.0	100.0	0	119	0	2,880
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	21.7	10.0	90.0	2	20	851	475
Roadway maintenance	361.9	1.3	98.7	5	357	1,823	8,676
Roadway expansion	193.9	1.3	98.7	2	191	977	4,648
All modes total	696.1	--	--	9	687	3,651	16,678

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 43,736 workers living in Mariposa County, 2,556 lived in 0-car households.

[c] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 7.43 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	52.4	0.0	100.0	0	52	0	1,308
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	3.6	96.4	0	0	0	0
Roadway maintenance	85.0	1.5	98.5	1	84	690	2,092
Roadway expansion	0.0	1.5	98.5	0	0	0	0
All modes total	137.4	--	--	1	136	690	3,400

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 41,873 workers living in Nevada County, 1,824 were non-white.

[c] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 7.44 Investment equity analysis from the Mariposa County 2022 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	3.5	27.2	72.8	1	3	2,071	361
Transit (Rail)	0.0	27.2	72.8	0	0	0	0
Non-motorized	1.0	9.4	90.6	0	1	205	128
Roadway maintenance	57.9	1.6	98.4	1	57	2,063	8,070
Roadway expansion	0.0	1.6	98.4	0	0	0	0
All modes total	62.4	--	--	2	60	4,339	8,560

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 7,515 workers living in Mariposa County, 460 lived in 0-car households.

[c] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 7.45 Investment equity analysis from the Plumas County 2022 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	9.1	7.8	92.2	0.7	8.4	2,176	1,085
Transit (Rail)	0.0	7.8	92.2	0.0	0.0	0	0
Non-motorized	2.0	13.7	86.3	0.3	1.7	833	223
Roadway maintenance	99.2	1.2	98.8	1.2	98.1	3,618	12,691
Roadway expansion	0.0	1.2	98.8	0.0	0.0	0	0
All modes total	110.3	--	--	2.2	108	6,627	14,000

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 8,055 workers living in Plumas County, 328 lived in 0-car households.

[c] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 7.46 Investment equity analysis from the San Benito County Council of Governments 2020 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH
Transit (Bus)	211	20.4	79.6	43	168	81,164	8,557
Transit (Rail)	0	20.4	79.6	0	0	0	0
Non-motorized	32	4.7	95.3	2	31	2,893	1,567
Roadway maintenance	362	1.3	98.7	5	357	9,207	18,163
Roadway expansion	1,214	1.3	98.7	16	1,198	30,894	60,948
All modes total	1,820.0	--	--	66	1,754	124,157	89,235

[a] PUMS 2023 data for Monterey County

[b] According to the 2020 Decenial Census, out of a total 20,188 workers living in San Benito County, 530 lived in a 0-car household.

[c] pp. E-30, FIGURE F-1.1, https://tularecog.org/tcag/planning/rtp/rtp-2022/chapter-e-financial-element/

Table 7.47 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	930.0	8.5	91.5	79	851	18,080	8,142
Transit (Rail)	0.0	8.5	91.5	0	0	0	0
Non-motorized	184.0	8.7	91.3	16	168	3,678	1,607
Roadway maintenance	823.0	2.0	98.0	17	806	3,792	7,715
Roadway expansion	1,088.0	2.0	98.0	22	1,066	5,013	10,199
All modes total	3,025.0	--	--	133	2,892	30,563	27,662

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 108,897 workers in San Luis Obispo County, 4,366 lived in 0-car households.

[c] p. 6-2, Table 6-1, https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga=1

Table 7.48 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH
Transit (Bus)	134.4	18.7	81.3	25	109	5,699	1,630
Transit (Rail)	0.0	18.7	81.3	0	0	0	0
Non-motorized	61.8	14.5	85.5	9	53	2,039	788
Roadway maintenance	2,493.4	1.6	98.4	40	2,453	9,114	36,577
Roadway expansion	6,349.0	1.6	98.4	102	6,247	23,208	93,136
All modes total	9,038.7	--	--	176	8,862	40,060	132,131

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 71,473 workers in Shasta County, 4,400 lived in 0-car households.

[c] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 7.49 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH	0-Car HH workers	>0-Car HH workers
Transit (Bus)	0.7	7.8	92.2	0	1	48	35
Transit (Rail)	0.0	7.8	92.2	0	0	0	0
Non-motorized	21.8	13.7	86.3	3	19	2,731	1,056
Roadway maintenance	564.3	1.2	98.8	7	558	6,183	31,293
Roadway expansion	0.0	1.2	98.8	0	0	0	0
All modes total	586.7	--	--	10	577	8,963	32,384

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 18,907 workers in Siskiyou County, 1,091 lived in 0-car households.

[c] pp. 83-84, Tables 5.3-5.7, https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 7.50 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	2,578	3.4	96.6	89	2,489	9,523	14,894
Transit (Rail)	0	3.4	96.6	0	0	0	0
Non-motorized	644	14.9	85.1	96	548	10,285	3,278
Roadway maintenance	119	1.3	98.7	2	117	168	700
Roadway expansion	3,818	1.3	98.7	50	3,768	5,405	22,543
All modes total	7,158.4	--	--	237	6,922	25,380	41,414

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 176,457 workers in Stanislaus County, 9,320 lived in 0-car households.

[c] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 7.51 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2023 PUMS mode share by vehicles per household and 2020 Census worker household vehicle data.

Mode Category	Total RTP Investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers	0-Car HH workers	>0-Car HH workers
Transit (Bus)	16.0	0.0	100.0	0	16	0	694
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	1.0	7.8	92.2	0	1	53	40
Roadway maintenance	369.0	1.5	98.5	5	363	3,761	15,759
Roadway expansion	0.0	1.5	98.5	0	0	0	0
All modes total	386.0	--	--	6	380	3,814	16,492

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 24,526 workers in Tehama County, 1,460 lived in 0-car households.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

7.4 PUMS 2023 mode data – households with children and mode equity analysis

Table 7.52 Investment equity analysis from the Metropolitan Transportation Commission (MTC) 2014 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	180,000.0	28.2	71.8	50,743	129,257	60,432	66,428
Transit (Rail)	0.0	30.3	69.7	0	0	0	0
Non-motorized	19,200.0	27.2	72.8	5,231	13,969	6,230	7,179
Roadway maintenance	94,000.0	41.7	58.3	39,196	54,804	46,680	28,165
Roadway expansion	15,000.0	41.7	58.3	6,255	8,745	7,449	4,494
All modes total	308,200.0	--	--	101,424	206,776	120,790	106,267

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 2,785,482 workers in the 9-county Bay Area, 839,667 had children.

[c] p. 66, Table 17 and (for Non-Motorized) p. 75, https://mtc.ca.gov/sites/default/files/4-Investments.pdf

Table 7.53 Investment equity analysis from the Sacramento Area Council of Governments (SACOG) 2025 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	9,112.3	26.0	74.0	2,371	6,741	7,816	10,634
Transit (Rail)	5,914.2	35.7	64.3	2,112	3,802	6,961	5,998
Non-motorized	2,497.8	28.0	72.0	699	1,799	2,303	2,838
Roadway maintenance	11,078.3	40.2	59.8	4,459	6,619	14,698	10,442
Roadway expansion	16,776.5	40.2	59.8	6,752	10,024	22,258	15,813
All modes total	45,379.2	--	--	16,393	28,986	54,035	45,724

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 937,307 households in the 6-county SACOG region, 303,379 had children.

[c] Appendix A, https://www.sacog.org/home/showpublisheddocument/1792/638387495614770000

Table 7.54 Investment equity analysis from the Southern California Association of Governments (SCAG) 2025 RTIP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	15,962.5	39.5	60.5	6,310	9,652	3,105	2,304
Transit (Rail)	0.0	29.8	70.2	0	0	0	0
Non-motorized	2,638.5	33.5	66.5	884	1,754	435	419
Roadway maintenance	4,708.6	43.6	56.4	2,051	2,657	1,009	634
Roadway expansion	16,321.2	43.6	56.4	7,111	9,210	3,498	2,198
All modes total	39,630.9	--	--	16,357.0	23,273.9	8,047.5	5,555.3

[a] CTPP 2016 https://transportation.org/ctpp/datasets/

[b] According to the 2020 Decenial Census, out of a total 6,222,035 households in the 6-county SCAG region, 2,032,546 had children.

[c] pp. 6-8, TABLES 4&5 & FIGURE 2, https://scag.ca.gov/sites/main/files/file-attachments/23-3082-final-2025-ftip-executive-summary.pdf?1725569135

Table 7.55 Investment equity analysis from the Calaveras County Council of Governments 2021 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	2.0	24.6	75.4	0	2	137	107
Transit (Rail)	0.0	24.6	75.4	0	0	0	0
Non-motorized	1.0	35.4	64.6	0	1	97	45
Roadway maintenance	112.8	39.6	60.4	45	68	12,292	4,773
Roadway expansion	333.1	39.6	60.4	132	201	36,318	14,104
All modes total	448.9	--	--	177	271	48,844	19,030

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 17,897 households in Calaveras County, 3,634 had children.

[c] p. 112, Table 23, https://calacog.org/wp-content/uploads/2021/10/2021-Calaveras-RTP-Final1013.pdf

Table 7.56 Investment equity analysis from the Del Norte County 2022 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	10.2	51.0	49.0	5	5	1,869	729
Transit (Rail)	0.0	51.0	49.0	0	0	0	0
Non-motorized	0.0	34.0	66.0	0	0	0	0
Roadway maintenance	0.0	44.2	55.8	0	0	0	0
Roadway expansion	266.1	44.2	55.8	118	148	42,397	21,684
All modes total	276.3	--	--	123	153	44,266	22,413

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 9,621 households in Del Norte County, 2,777 had children.

[c] p. 76, Table 5.5,
https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

Table 7.57 Investment equity analysis from the Fresno Council of Governments 2022 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	1,026.0	46.0	54.0	472	554	3,726	2,834
Transit (Rail)	0.0	46.0	54.0	0	0	0	0
Non-motorized	1,041.6	43.5	56.5	453	589	3,574	3,012
Roadway maintenance	2,328.0	49.6	50.4	1,155	1,173	9,123	5,997
Roadway expansion	1,630.0	49.6	50.4	809	821	6,388	4,199
All modes total	6,025.6	--	--	2,889	3,137	22,811	16,043

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 322,163 households in Fresno County, 126,630 had children.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 7.58 Investment equity analysis from the Glenn County 2020 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	1.3	63.4	36.6	1	0	234	73
Transit (Rail)	0.0	63.4	36.6	0	0	0	0
Non-motorized	1.3	29.6	70.4	0	1	111	144
Roadway maintenance	52.6	49.7	50.3	26	26	7,612	4,180
Roadway expansion	0.0	49.7	50.3	0	0	0	0
All modes total	55.2	--	--	27	28	7,957	4,396

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 9,763 households in Glenn County, 3,434 had children.

[c] pp. 75-76, Tables 5.3-5.7, https://www.countyofglenn.net/sites/default/files/Final%20Glenn%20RTP%202020.pdf

Table 7.59 Investment equity analysis from Kings County's 2018 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per worker investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	118.6	18.9	81.1	22	96	1,183	3,876
Transit (Rail)	0.0	18.9	81.1	0	0	0	0
Non-motorized	21.7	57.7	42.3	13	9	662	370
Roadway maintenance	361.9	52.5	47.5	190	172	10,053	6,921
Roadway expansion	193.9	52.5	47.5	102	92	5,386	3,708
All modes total	696.1	--	--	326.9	369.3	17,284	14,875

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 43,736 households in Kings County, 18,912 had children.

[c] pp. 11-7, FIGURE 11-2, https://www.kingscog.org/vertical/Sites/%7BC427AE30-9936-4733-B9D4-140709AD3BBF%7D/uploads/KCAG_2018_RTPSCS_Full_Document.pdf

Table 7.60 Investment equity analysis from Nevada County's 2018 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	52.4	0.0	100.0	0	52	0	1,623
Transit (Rail)	0.0	0.0	100.0	0	0	0	0
Non-motorized	0.0	33.1	66.9	0	0	0	0
Roadway maintenance	85.0	38.7	61.3	33	52	3,427	1,615
Roadway expansion	0.0	38.7	61.3	0	0	0	0
All modes total	137.4	--	--	33	104	3,427	3,239

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 41,873 households in Nevada County, 9,611 had children.

[c] pp. 149-150, Tables 54-57, https://www.nctc.ca.gov/documents/RTP/Final%20Nevada%20Co%20RTP%201_17_18.pdf

Table 7.61 Investment equity analysis from the Mariposa County 2022 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	3.5	24.6	75.4	1	3	250	749
Transit (Rail)	0.0	24.6	75.4	0	0	0	0
Non-motorized	1.0	35.4	64.6	0	1	103	183
Roadway maintenance	57.9	39.6	60.4	23	35	6,657	9,916
Roadway expansion	0.0	39.6	60.4	0	0	0	0
All modes total	62.4	--	--	24	38	7,009	10,848

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 6,970 households in Mariposa County, 3,445 had children.

[c] p. 92, Table 29, https://www.mariposacounty.org/DocumentCenter/View/96665/Mariposa-RTP-Report-wApp-09-19-2023?bidId=

Table 7.62 Investment equity analysis from the Plumas County 2022 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Bus (all Transit if no R	9	51.0	49.0	5	4	2,587	712
Rail	0	51.0	49.0	0	0	0	0
Non-motorized	2	34.0	66.0	1	1	380	211
Roadway maintenance	99	44.2	55.8	44	55	24,487	8,838
Roadway expansion	0	44.2	55.8	0	0	0	0
All modes total	110.3	--	--	49	61	27,454	9,761

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 8,055 households in Plumas County, 1,793 had children.

[c] pp. 77-78, Tables 5.3-5.7, https://www.plumascounty.us/DocumentCenter/View/25571/2020-Plumas-Regional-Transportation-Plan-Final?bidId=

Table 7.63 Investment equity analysis from the San Benito County Council of Governments 2020 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-Children	Workers from HHs w-out Children	Workers from HHs w-Children	Workers from HHs w-out	HHs w-Children	HH's w-Out Children
Transit (Bus)	211.2	28.3	71.7	60	151	7,103	12,867
Transit (Rail)	0.0	28.3	71.7	0	0	0	0
Non-motorized	32.3	34.3	65.7	11	21	1,318	1,804
Roadway maintenance	361.9	45.6	54.4	165	197	19,602	16,730
Roadway expansion	1,214.5	45.6	54.4	554	661	65,777	56,139
All modes total	1,820.0	--	--	790	1,030	93,801	87,540

[a] PUMS 2023 data for Monterey County

[b] According to the 2020 Decenial Census, out of a total 20,188 households in San Benito County, 8,421 had children.

[c] p. 7, Table 6.1, https://www.planfresno.com/planfresno/uploads/2022/07/Chapter-6-Financial-Element_UPDATED.pdf

Table 7.64 Investment equity analysis from the San Luis Obispo County Council of Governments 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out children	HHs w-children	HH's w-out children
Transit (Bus)	930.0	29.4	70.6	273	657	10,522	7,920
Transit (Rail)	0.0	29.4	70.6	0	0	0	0
Non-motorized	184.0	30.1	69.9	55	129	2,136	1,550
Roadway maintenance	823.0	36.9	63.1	303	520	11,685	6,266
Roadway expansion	1,088.0	36.9	63.1	401	687	15,447	8,284
All modes total	3,025.0	--	--	1,033	1,992	39,789	24,020

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 108,897 households in San Luis Obispo County, 25,956 had children.

[c] p. 6-2, Table 6-1,
https://sanluiscog.sharepoint.com/sites/SLOCOGTeamFolder/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS%2F00%2D%202023%20RTP%20Final%20Adopted%2Epdf&parent=%2Fsites%2FSLOCOGTeamFolder%2FShared%20Documents%2FSLOCOG%20Website%20Files%2FPrograms%2FRegional%20Planning%2F2023%20RTP%2F2023%20RTP%5FFINAL%20DOCS&p=true&ga=1

Table 7.65 Investment equity analysis from the Shasta Regional Transportation Agency 2022 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	134.4	17.2	82.8	23	111	1,222	2,117
Transit (Rail)	0.0	17.2	82.8	0	0	0	0
Non-motorized	61.8	37.3	62.7	23	39	1,223	737
Roadway maintenance	2,493.4	43.3	56.7	1,081	1,413	57,253	26,858
Roadway expansion	6,349.0	43.3	56.7	2,752	3,597	145,782	68,389
All modes total	9,038.7	--	--	3,879	5,160	205,480	98,101

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 71,473 households in Shasta County, 18,878 had children.

[c] pp. 75-112, Tables, https://srta.ca.gov/DocumentCenter/View/9214/2022-Regional-Transportation-Plan--Sustainable-Communities-Strategy

Table 7.66 Investment equity analysis from the Siskiyou County 2021 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	1	51.0	49.0	0	0	76	23
Transit (Rail)	0	51.0	49.0	0	0	0	0
Non-motorized	22	34.0	66.0	7	14	1,644	999
Roadway maintenance	564	44.2	55.8	250	315	55,274	21,864
Roadway expansion	0	44.2	55.8	0	0	0	0
All modes total	586.7	--	--	257	329	56,994	22,886

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total18,907 households in Siskiyou County, 4,516 had children.

[c] pp. 83-84, Tables 5.3-5.7, https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/29563/scltc_2021_rtp.pdf

Table 7.67 Investment equity analysis from Stanislaus County's 2018 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	2,578.1	55.8	44.2	1,439	1,139	21,240	10,480
Transit (Rail)	0.0	55.8	44.2	0	0	0	0
Non-motorized	643.7	46.1	53.9	297	347	4,381	3,191
Roadway maintenance	118.5	50.4	49.6	60	59	881	541
Roadway expansion	3,818.1	50.4	49.6	1,924	1,895	28,398	17,426
All modes total	7,158.4	--	--	3,719	3,440	54,900	31,638

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 176,457 households in Stanislaus County, 67,734 had children.

[c] https://www.stancog.org/DocumentCenter/View/368/Action-Plan-PDF

Table 7.68 Investment equity analysis from Tehama County's 2019 RTP supplemented with 2023 PUMS mode share by workers from households with children and 2020 Census households with children data.

Mode category	Total RTP investments (Million $)[c]	Share of workers using mode for journey to work[a] (%)		Share of investments for each mode (Million $)		Per household investments[b] for each mode ($)	
		Workers from HHs w-children	Workers from HHs w-out children	Workers from HHs w-children	Workers from HHs w-out	HHs w-children	HH's w-out children
Transit (Bus)	16.0	63.4	36.6	10	6	1,253	356
Transit (Rail)	0.0	63.4	36.6	0	0	0	0
Non-motorized	1.0	29.6	70.4	0	1	37	43
Roadway maintenance	369.0	49.7	50.3	183	186	22,649	11,297
Roadway expansion	0.0	49.7	50.3	0	0	0	0
All modes total	386.0	--	--	194	192	23,938	11,696

[a] PUMS 2023 data

[b] According to the 2020 Decenial Census, out of a total 24,526 households in Tehama County, 8,097 had children.

[c] p. 76, Table 5.5, https://static1.squarespace.com/static/5dd6d94a5271b568ade1392f/t/6037fde0d1d0ce5860c170e9/1614282224624/Final+Del+Norte+RTP+v2-compressed.pdf

About the Authors

Christopher Ferrell, PhD

Dr. Ferrell began his career in 1995 as a planner for the Metropolitan Transportation Commission (MTC). He completed his doctoral studies in City and Regional Planning at the University of California at Berkeley in 2005 and worked as a consultant with Dowling Associates, Inc. for 10 years before leaving to help form CFA Consultants in 2010. He is currently a principal, board member, and the executive director of Transportation Choices for Sustainable Communities Research and Policy Institute, a 501(c)(3) non-profit. He has been the principal investigator for eight research projects for the Mineta Transportation Institute, where he has been a Research Associate since 2005. His research focuses on the relationships between transportation and land use, livability, travel behavior, transportation policy, and planning-related institutional structures. His research experience includes the study of multimodal transit and freeway corridors, the best practices for building successful transit-oriented development, the effects of transit-oriented development on surrounding property values, the effects of neighborhood crimes on transportation mode choice, and a set of methods, metrics, and strategies for evaluating transit corridor livability. As a practitioner, he has planned mixed-use, infill, and transit-oriented development projects; analyzed the impacts of specific and general plans; planned and implemented intelligent transportation systems; and developed bicycle and pedestrian plans. He has taught several quantitative methods classes in San José State University's Urban Planning Department and a course in transportation and land use in the City and Regional Planning Department at the University of California at Berkeley.

David Reinke, MS, MRP

Mr. David Reinke is a transportation engineer/economist with over 40 years of experience in travel demand modeling, transportation economics, survey design and management, database management, and software engineering. He has worked on a number of leading-edge projects in travel demand and economics, including development of activity-based travel demand models, development of discrete-choice travel forecasting models, the development of microsimulation-based models for analysis of congestion pricing alternatives, and applications of economic methods to transportation policy analysis. His areas of expertise include policy analysis, advanced statistical methods, machine learning methods, economic analysis, survey design and management, and applications of advanced computational techniques to transportation. He is currently a Research Associate with the Mineta Transportation Institute, where he has worked on studies of transit equity and transportation economics. David currently co-chairs the Education and Outreach Subcommittee for the Committee on Artificial Intelligence and Advanced Computing Applications (AED50) at the Transportation Research Board (TRB) and is a past member of TRB committees on Statistics, Economics, and Travel Behavior and Values. He is also a member of the IEEE Intelligent Transportation Systems Society.

John M. Eells, MCP

John Eells is a transportation planner with 44 years of experience preparing comprehensive transportation plans and developing sustainable transportation projects at the local and regional level. John's experience includes two years in the Legislative Analyst Office in the California State Legislature, five years with the California Department of Transportation (Caltrans), seven years as the Transportation Planning Coordinator for Marin County, and thirty years as a consultant. He holds a Bachelor's degree in Architecture and a Master's degree in City Planning from the University of California at Berkeley. John has assisted in the preparation of Regional Transportation Plans for Sacramento and Lake Tahoe and reviewed Regional Transportation Plans throughout California for conformance with State greenhouse gas reduction requirements for the California Attorney General's Office. He participated in a joint effort by Caltrans and the California Council on Science and Technology to develop a proposal for a new California Center for Transportation Innovation to coordinate transportation research activities in California. John has also managed major multi-modal transportation studies, evaluated the feasibility of proposed ferry services, and worked on the implementation of several rail transit projects including the Sacramento Light Rail project, the ACE Commuter Rail Service from Stockton to San José, the SMART Commuter Rail Service from Cloverdale to Larkspur, proposed AMTRAK service from Oakland to Reno, and the proposed high speed Maglev Service from Los Angeles to Las Vegas.

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[96] One-year ACS tabulations are only available for geographic areas with populations of 65,000 or greater. Hence, one-year ACS tabulations were not available for many of the rural counties in California. We do not believe that the pandemic had a significant effect on the five-year tabulations, as the ACS survey sample for 2020 was severely curtailed, and recovery from the pandemic began in the second quarter of 2022.

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