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State Active Transportation Program Technical Assistance Using Performance Indicators to Support Your Project

The purpose of this document is to show how a project sponsor can use data from the PPA tool to support a State ATP application. The complete PPA documentation can be found on the SACOG website:

<https://www.sacog.org/project-performance-assessment>

The customized PPA website for this data is online [here](#).

The Project Performance Assessment Tool

A performance-based approach examines information about roads, trails, transit systems, the surrounding neighborhoods and communities, and the people living in those communities to make sound investment decisions on projects with demonstrated performance benefits. The SACOG Board of Directors directed staff to augment performance-based planning, monitoring, and programming within the agency. In response, SACOG created the online Project Performance Assessment (PPA) tool. The tool brings together regional data sets to provide data, land use and transportation network context, and related performance indicators for individual transportation projects.

How the PPA Tool Works

The PPA tool identifies a half mile buffered area around a transportation investment using GIS (geographic information systems), and examines both existing and forecasted future conditions in the buffered area. The data come from a variety of sources including SACOG's parcel based land use data, its integrated land-use transportation data, the regional centerline file, the SACSIM travel demand model, the General Transit Feed Specification (GTFS), and the Transportation Injury Mapping System (TIMS). The PPA tool provides data indicators in support of performance outcomes, or scoring criteria for the State ATP. The indicators support project evaluation across size, scope, and places:

- Performance indicators are designed so a project will be evaluated relative to its size, i.e. a larger project won't skew results because of its extent. The tool provides place type averages by indicator to better account for the diversity of the SACOG region. The tool uses the 2016 MTP/SCS place types to calculate the community averages (defined below).
- For most indicators (except VMT-related indicators), a supportive score will be numerically higher than the community average.

The PPA tool provides regional and MTP/SCS place type averages on each indicator. By identifying the community type average, an evaluator can compare a project's indicators to what is projected for similar communities. If multiple community types are present in the buffer area, the PPA tool uses the most prominent. The MTP/SCS identified five Community Types based on information from local land use plans to identify land use patterns: center/corridor, established community, developing community, rural residential, and agricultural/open space. Each community type has typical housing and land use characteristics associated with those patterns which provide context for the working group's review of each application.

Established Communities

Established Communities are typically made up of existing low- to medium- density residential neighborhoods, office and industrial parks, or commercial strip centers. Established Communities may or may not have bus service, e.g. commuter bus service or lower-frequency service. By 2036, transit/bike/walk trips per capita (0.47) are slightly below the regional average (0.51).

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However, the majority of the region's transportation network is in Established Communities in 2012 and in 2036, much of which needs complete streets road rehabilitation.

Center and Corridor Communities

Center and Corridor Communities are typically higher density and more mixed than other areas. Some have frequent transit service, either bus or rail, and all have pedestrian and bicycling infrastructure that is more supportive of walking and bicycling than other Community Types. The transit/bike/walk trip rate is 1.09 weekday trips per capita, more than twice the regional average of 0.51 trips per capita in 2036.

Developing Communities

Developing Communities are typically situated on vacant land at the edge of existing urban or suburban development; they are the next increment of urban expansion. Transportation options in Developing Communities often depend on the timing of development. Bus service may be infrequent or unavailable today, but may be available every 30 minutes or less once a community builds out. Walking and bicycling environments vary widely, though many Developing Communities are designed with trails.

Rural Residential

Rural Residential Communities are typically located outside of urbanized areas and are predominately residential, with some small-scale hobby or commercial farming. Travel occurs almost exclusively by automobile and transit service is minimal or nonexistent.

Agriculture and Open Space

These areas of the region are not expected to develop to urban levels during the MTP/SCS planning period.

Using the PPA Tool for the State ATP

The State Active Transportation Program (ATP) funds projects based on how well proposed project addresses the scoring criteria. The PPA Tool can help project sponsors strengthen the argument for the project by relating data indicators to community needs, and by tying the project to achieving regional goals from the MTP/SCS.

[ATP PPA Tool](#)

SACOG staff identified potential data indicators to establish the current conditions in the project area. Project sponsors can use this data in the project application to demonstrate how the project design elements maintain, enhance, or respond to the performance data and need identified by the tool.

ATP Criterion: Benefit to Disadvantaged Communities

The MTP/SCS uses a low income high minority (LIHM) definition for its environmental justice and equity analysis. On June 30, the California Transportation Commission (CTC) granted conditional approval to SACOG for project sponsors to use the LIHM definition as a State ATP-recognized disadvantaged community definition. *See if your project is located in a Sacramento region LIHM area: [Map of LIHM areas](#)*

The PPA tool uses the LIHM geography to provide two data indicators which can be utilized for ATP project applications. This data is helpful for discussing the number or percentage of

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disadvantaged community residents who will benefit from your project if it is only partially located in a disadvantaged community.

Indicator: LIHM Population

This indicator includes the total LIHM population in the project buffer area.

How you use it

The LIHM share of total population may be used to explain how the disadvantaged community residents will have physical access to the project as well as inform public outreach strategies to strengthen community support for the proposed project.

Project Value (sample)	Community Type Average	Regional Average
7,261	N/A	N/A

Sample text: Though only 20% of the project is located in a disadvantaged community, over 7,000 disadvantaged community residents live within a half mile of the trail and will be able to use it once it is built.

Indicator: % LIHM Population

This indicator reports what percent of the total population in the project area falls in a LIHM category, per SACOG's MTP/SCS definition.

How you use it

The total LIHM population may be used to explain how the disadvantaged community residents will have physical access to the project as well as inform public outreach strategies to strengthen community support for the proposed project.

Project Value (sample)	Community Type Average	Regional Average
35%	31%	30%

Sample text: Though only 20% of the project is located in a disadvantaged community, 35% of the people living within a half mile of the trail are disadvantaged community residents who will have access to the low-stress connection.

ATP Criterion: Need for Active Transportation Investment

Indicator: 3- or 4-way intersections per acre

This indicator reports the number of 3- and 4-way intersections per acre of project buffer. The source is the regional centerline file, for the base year of the current MTP/SCS.

How you use it

Street intersection density positively relates to the walkability of the area, meaning an area with higher intersection density is more supportive of projects aiming to increase active transportation, especially if there are improvements targeted to pedestrians. This indicator can be used to demonstrate street connectivity within the project area that encourages active transportation.

Project Value (sample)	Community Type Average	Regional Average
.17	.11	.03

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Sample text: According to the EPA, high intersection density may correspond to a more walkable and therefore health-promoting environment¹. The project area has 0.17 intersections per acre compared to 0.11 intersections in similar places within the Sacramento area, and .03 intersections per acre within the entire region; once sidewalks are added to this area, we will undoubtedly see increases in walking because of the nearby destinations and higher intersection density.

Indicator: Bike lane + path / total road mileage

The indicator draws on SACOG's 2018 existing bikeway network to document the extent to which a proposed project helps overcome an existing gap in bicycle infrastructure, complete a planned active transportation network, or (in the case of trails projects), provide a continuous route for active transportation users. The measure divides the number of class 1, 2, and 4 (trails, bike lanes, and protected bike lanes) centerline miles in the project area by the total number of centerline miles in the same area.

How you use it

A project with a higher score can show that there are designated facilities that the project will connect to, i.e. that the project is filling in a gap in the bike network and bringing the project area closer to the network connectivity that car drivers experience. On the other hand, projects with a lower score could use this indicator to demonstrate the need for investment to start developing a bike network and increase connectivity.

Project Value (sample)	Community Type Average	Regional Average
27%	22%	10%

Sample text: The project will fill in a gap in the city's bike network by adding one mile of protected bikeway to the roadway. The city has already built many dedicated bikeways (lanes, trails, and protected bike lanes) which will connect to the new protected bike lane and proposed improvements in this project. Around the project, we have almost 27% as many bikeway miles as roadway miles (e.g. 27 miles of bike lanes, trails, and protected bike lanes for every 100 miles of road), compared to 22% in similar places within the Sacramento area and 10% in the Sacramento region.

Indicator: Transit vehicle stops per acre

Improvements to transit operations and facilities will help realize the MTP/SCS vision of cost-effective transit service and expanded mobility options. This next indicator calculates the number of times a transit vehicle stops daily in the project area, relative to the project buffer area, drawing on the GTFS (General Transit Feed Specification). Note that while this indicator measures frequency it does not measure use, as SACOG does not have access to a consistent, geographic data layer that measures boardings by route by operator.

How you use it

A greater number of transit stops per acre relative to similar areas can help support your argument that the project area will be a good investment candidate to pair active transportation infrastructure with productive transit service.

Project Value (sample)	Community Type Average	Regional Average
5.82	1.21	0.06

¹

<https://enviroatlas.epa.gov/enviroatlas/DataFactSheets/pdf/Supplemental/Estimatedintersectiondensityofwalkableroads.pdf>

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Sample text: The project area has more frequent transit service than similar places within the Sacramento region: 5.82 stops per acre compared to 1.21 in similar communities in the Sacramento region. By investing in sidewalks connecting to this high-performing productive bus stop, we are increasing access to a popular transit stop that connects people living in this neighborhood to jobs in downtown and to the junior college.

Indicator: VMT/Capita

This indicator establishes the existing daily household generated VMT/capita in the project area. The data comes from SACOG's 2016 MTP/SCS, with population from the Plan's parcel-based base year population file and VMT from the agency's travel demand model. The calculation divides total daily household generated VMT in the project area by that area's population.

How you use it

A lower VMT/capita relative to similar areas can help support your argument that, compared to similar communities, the project area will be a good investment candidate since it will support a community that is already choosing to travel shorter distances by car, and may be able to convert some of those trips to biking or walking:

Project Value (sample)	Community Type Average	Regional Average
12.1	17.5	18.3

Sample text: People living in the project area drive, on average, five fewer miles each day than in similar areas in the Sacramento region: 12.1 miles daily, compared to 17.5 miles daily in similar communities, or the regional average of 18.3 miles daily. By increasing the bike lanes in this area, we are strengthening bike connections for people who are already choosing to drive less than other residents in our region, and empowering them to make even more trips by bike instead of car.

Indicator: Change in VMT/ capita

The percent change in VMT/capita indicator first calculates the project buffer area's VMT/capita for the year 2036 (the horizon year of SACOG's current MTP/SCS). The calculation draws on the same inputs and method as current VMT/capita, save for the MTP's horizon instead of the base year. The indicator then takes the percent change in VMT/capita between these data points (horizon year and base year of the MTP/SCS). The greater the decline in VMT per capita, the stronger the argument for increasing active transportation facilities to help convert vehicle trips wholly or partially to walking or biking trips (e.g., a -15% change in VMT per capita would be more supportive of converting vehicle trips than a -5% change, which in turn would be more supportive than a 5% increase).

How you use it

A project area with decreasing VMT over time could argue that fewer vehicle miles are being traveled because some trips are being replaced by biking or walking.

Project Value (sample)	Community Type Average	Regional Average
-8%	-6%	-6%

Sample text: In the Sacramento region's long-range transportation plan, the area around the project is expected to have an 8% drop in vehicle miles traveled daily, in part due to people taking more trips by biking and walking. This is a greater decrease than what the entire Sacramento region will see for decreasing vehicle miles traveled (6% decrease), and a greater decrease than what similar communities will see (6% decrease).

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Indicator: Bike future mode share

This indicator reports the proportion of trips made by biking in the horizon year of the current MTP/SCS in the project area. The source of the forecasted data is SACOG's travel demand model.

How you use it

A project area with increasing bicycle mode share over time could argue that further investment is needed to increase the accessibility of active transportation options.

Project Value (sample)	Community Type Average	Regional Average
5.1%	4.7%	2.1%

Sample text: Under the Sacramento Region's long-range transportation plan, 5.1% of all trips within the project area will be taken by bicycle, compared to 4.7% in similar areas in the Sacramento region and 2.1% in the region as a whole. Further investment in the active transportation network is needed to serve a growing bike mode share in the future.

Indicator: Pedestrian future mode share

This indicator reports the proportion of trips made by walking in the horizon year of the current MTP/SCS in the project area. The source of the forecasted data is SACOG's travel demand model.

How you use it

A project area with increasing pedestrian mode share over time (i.e. higher than the community average) could argue that further investment is needed to increase walkability and the accessibility of active transportation options.

Project Value (sample)	Community Type Average	Regional Average
29%	18%	14%

Sample text: By 2036, community members within the project site will choose to walk for almost 30% of their trips, in part due to a strong foundation for a future pedestrian network and the increase walk-attracting destinations. The project will provide a better, safer walking experience for members of the community and help realize the potential increase in walking mode share to create a healthier community.

ATP Criterion: Safety

The PPA tool provides data on indicators relating to safety on transportation infrastructure. Please note the safety indicators identified below may be used *in addition to* the required tools developed for the State ATP program.

Indicator: Total Collisions per 1 million VMT

This indicator divides the five-year TIMS collision average along the facility by its VMT (the calculation annualizes VMT, which usually is reported as a daily value, to get a comparison of average yearly collision by annual VMT). It then divides by 1 million to report as a per million VMT measure. The method interprets a higher rate relative to similar areas as more representative of need.

How you use it

A project area with a higher rate of collisions relative to similar areas could argue further investment is needed to improve safety and security for all users of the transportation network.

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Project Value (sample)	Community Type Average	Regional Average
.91	.90	.70

Sample text: There are currently .91 collisions per every 1 million vehicle miles traveled within the project site, higher than similar communities (.90) and the Sacramento region as a whole (.70). While the community's only grocery store is located on this stretch of road, there are few people who walk or bike there. This is likely due to the perception that it is too dangerous to walk or bike there, as shown with the rate of collisions. We need to invest in safety improvements to secure access to the transportation network for all users.

Indicator: % Bike/Ped collisions

This indicator looks at collisions involving pedestrians and cyclists. It reports the number of such collisions divided by total collisions, drawing on the five-year average from TIMS. The method interprets a higher percentage relative to similar areas as more representative of the performance outcome.

How you use it

A project area with a higher rate of collisions including bicyclists and/or pedestrians relative to similar areas could argue further investment is needed to improve safety and security for users of the active transportation network.

Project Value (sample)	Community Type Average	Regional Average
29%	18%	14%

Sample text: Approximately 29% of all collisions around the project site include bicyclists and/or pedestrians, compared to only 18% in similar communities and 14% in the Sacramento region as a whole. People biking and walking are disproportionately impacted by crashes in this area, and we must make changes to the roadway to address their needs.

Referring to PPA Tool Data

Sample text: The Sacramento region MPO (SACOG) developed a data tool to analyze transportation investments at the project level, looking at the current and future land uses, travel patterns, and other regional data. The data referenced here is from that tool.

Website reference: <https://www.sacog.org/project-performance-assessment>

PPA Resources and Documentation

Staff developed the below resource materials in support of the Regional Funding Program. However, the many of the indicators used for the Regional Funding Program (and its performance outcomes) directly related to active transportation modes and can support a State ATP grant application.

- The PPA tool stems from a 2017 working group and its technical review of performance assessment methodologies [here](#).
- Reference a compilation of PPA Tool questions in the [FAQ](#).
- SACOG staff hosted a webinar and live demonstration of the PPA tool (as designed for the Regional Funding Program) on [May 30, 2018](#).

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- The [Active Transportation Mapping Site](#) shows the State ATP-recognized disadvantaged communities, funded ATP projects, existing and planned bikeways, and other regional data that may support your ATP application.
- A detailed overview of the PPA tool is on [the SACOG website](#).
- SACOG is using the tool in the 2018 Regional Flexible Funding Round, as well as possibly in future planning and programming.
 - Technical Documentation for the Regional Program is [here](#).
 - Technical Documentation for the Community Design Program is [here](#).

Contact Information

SACOG staff can help prepare the inputs to the ATP Project Performance Assessment data tool for projects with unique scopes or geographies.

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