



Transportation Performance Metrics: Overview, Questions and Draft Consultant Work Tasks

City of Alameda Memo, November 7, 2023

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Overview

Over the years, the City of Alameda has used and developed many performance measures, metrics and targets to track changes in the transportation network over time, and to set goals. These have been focused on infrastructure, usage/ridership, safety and reducing greenhouse gases (GHGs). Many, but not all, of these efforts have been done with a focus on one mode (such as bicycling or transit), or one area (such as safety or climate). The City is now taking a comprehensive look at previous work completed, and work still needed, in order to establish metrics and in some cases, targets, for our transportation network as a whole.

At its core, the purpose of **performance metrics** is to measure the effectiveness of transportation investments at making progress towards City transportation goals. **Targets** are set to spur action and define success at achieving City goals.

This document provides background on work done to date and underway, recommends ways to expand upon the work already done or planned, and frames questions for the Transportation Commission on how to scope this effort. After incorporating the Commission's input, the City will hire a consultant to support this effort. A list of key consultant tasks is included at the end of this document.

Measuring Progress Towards City Transportation Goals

The City's General Plan (2021) has four Mobility goals, around which the performance metrics will be based. The goals are:

- Equity: Provide for the mobility needs of all Alameda residents, workers, and visitors regardless of income, age, ability or neighborhood.
- Safety: Eliminate fatalities and severe injuries on Alameda's streets, sidewalks, crosswalks and trails by 2035
- Choices: Expand and improve alternatives to low occupancy automobile trips to incentivize mode shift to more environmentally sustainable modes of transportation while recognizing the diverse needs for mobility.
- Sustainability: Reduce the impacts of transportation systems on the environment, and transition to a more resilient transportation system to address the impacts of climate change.

The General Plan does not include standalone goals to reduce automobile traffic or congestion outside the context of increasing safety and encouraging mode shift.

Equity Performance Metrics

The General Plan includes policies under the Equity Goal for community engagement, equitable and inclusive planning, and prioritizing serving the most vulnerable, however metrics for how to meet this Goal are less developed. The Goal does include an action to: "Annually review the citywide Capital Improvement Program to prioritize investments in maintenance and improvement of existing facilities as well as the investments in new or expanded plans and programs to ensure that transportation services are being equitably distributed throughout the City." [ME-4.a]

Work done to date

In 2022, the Transportation Commission approved utilizing the [BCDC community vulnerability map](#) to define the City's Equity Priority Areas. The Vision Zero Action Plan requires reporting on the percentage of infrastructure improvements taking place in these Equity Priority Areas. The Active Transportation Plan includes two performance metrics related to equity, with targets to be determined: (1) percent of active transportation improvement projects installed in equity priority communities, and (2) percent of programming and education in equity priority communities.

Recommendation

Dedicate a high level of effort to fleshing out performance metrics and targets for Equity Goal.

Questions for discussion

1. What equity metrics would Commissioners like to see? What would be most meaningful to track?

Safety Performance Metrics

The City adopted the [Vision Zero Action Plan](#) in 2021 with a goal to eliminate traffic deaths and severe injuries by 2035.

Work done to date

The Vision Zero Action Plan requires these performance metrics (see page 29):

Performance measures to track crashes and injuries

1. Number of injury crashes, by mode
2. Number of severe crashes, by mode
3. Number of people who died in crashes, by mode
4. Number of people who suffered severe injuries, by mode
5. Number of children in crashes and severe crashes
6. Number of older adults in crashes and severe crashes

Performance measures to track street design projects to improve roadway safety

7. Number of safety improvement projects
 - a. Percent installed in socially vulnerable areas
 - b. Percent installed along high injury corridors
 - c. Percent installed within 600' of schools

Performance measures to track police enforcement prioritization

8. Percentage of traffic enforcement actions associated with dangerous moving violations, including speeding, reckless driving, failure to yield, and other moving violations associated with severe crashes as identified through crash analysis
9. Percentage of traffic enforcement actions along High Injury Corridors
10. Traffic stops by race

Work underway

The City published its first annual report on these measures earlier this year, and will continue to publish these annually. The 2022 report included findings for all required Vision Zero Action Plan metrics except for #8 and #10 due to staff time limitations. For the measures in #7, the report also included maps developed in GIS. The report also included the following performance measures not specifically required in the Vision Zero Action Plan:

- Traffic fatalities & severe injury totals per year starting in 2009
- Rolling five-year averages, traffic fatalities & severe injuries, totals and by mode
- City, County, and State comparison, traffic fatalities & severe injuries rate per 100,000 population

The full 2022 Annual Report (Progress Toward Zero Traffic Fatalities Alameda Vision Zero) can be found here:

https://www.alamedaca.gov/files/assets/public/departments/alameda/transportation/vision-zero/2022visionzeroannualreport_3-15-2023.pdf

Recommendation

Continue tracking progress toward adopted performance measures plus the ones added in the first report. No new measures needed.

Transportation Choices/Mode Shift Performance Metrics

Mode Shift

The best measure for tracking mode shift away from automobiles is vehicle miles traveled (VMT), which is the total number of miles traveled by all motor vehicles in a specific area over a certain period of time, usually a year. Ultimately, the City would want to see VMT decrease, even with increases in population, in order to reduce both polluting emissions and the detrimental safety impacts of vehicles. A key challenge is that there is a lack of VMT data at the citywide level.

Work done to date

Transportation Choices Plan. In 2018, the City Council adopted the Transportation Choices Plan (TCP) to ensure that the City sustains a high quality of life while accommodating population and employment growth. The plan identified projects and programs to support shifts to transportation modes that make more efficient use of the existing transportation network, are more equitable, less damaging to the environment, and reduce congestion. The City has made significant progress on implementing the 39 projects and programs in the TCP, and reports annually on this work in the Annual Transportation Report.

The TCP identified two targets: one for estuary crossings to/from Alameda and one for trips within Alameda. The City has not, however, tracked progress towards these specific targets.

- **Goal 1** is to decrease drive-alone trips across the estuary in the morning peak by increasing non-drive alone trips by twelve percentage points from 27 percent to 39 percent. This relates to an increase of 2,500 additional walking, bicycling, transit, and carpool morning peak-hour person trips at estuary crossings (in 2030). (Figure 1 below)
- **Goal 2** is to increase the share of walking, bicycling, transit and carpooling trips in Alameda by increasing non-drive alone trips by five percentage points from 37 percent to 42 percent. This relates to an increase of 3,300 walking, bicycling, transit and carpool person trips in Alameda throughout the day (in 2030). (Figure 2 below)

Figure 1: AM Peak Hour Estuary Crossings Goal for Non-Drive Alone Trips

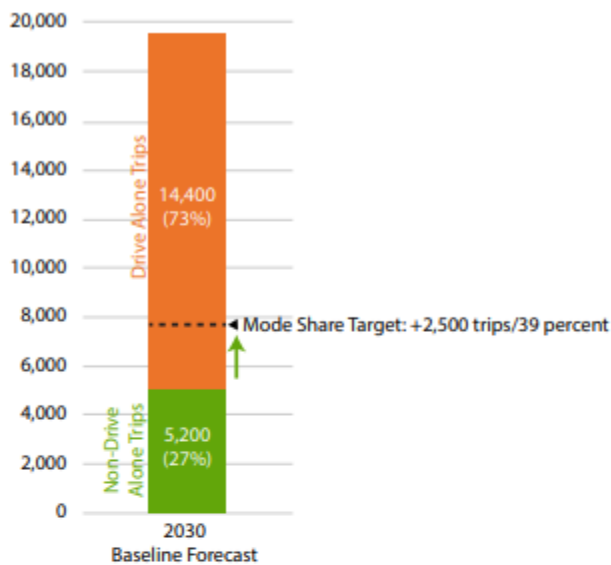
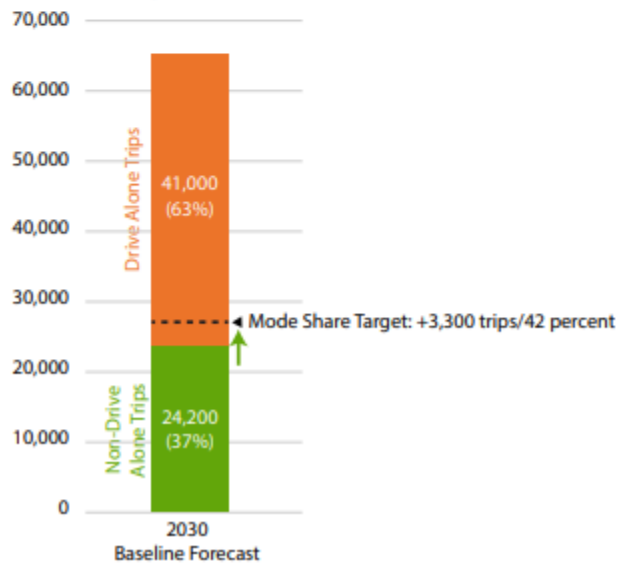


Figure 2: Weekday Daily Person Trips within Alameda Goal for Non-Drive Alone Trips



Climate Action and Resiliency Plan. The [Climate Action and Resiliency Plan](#) (CARP), adopted in 2019, builds on the goals and actions of the Transportation Choices Plan to reduce solo driving and to encourage walking, biking, riding transit and telecommuting. The CARP includes three transportation goals which focus on mode shift, including T1 focused on reducing commute VMT via the promotion of telecommuting, T2 to build additional bike lanes, and T4 to expand the AC Transit bus pass program.

Count Data. Collecting count data can help evaluate the effectiveness of both individual projects and citywide efforts on shifting people's travel modes. Both the City and housing

developers have collected data on volumes (for all modes), on a project-by-project and as-needed basis. Other agencies, including Caltrans and Alameda County, collect data on their facilities (state routes, the Tubes and bridges), and AC Transit and WETA collect ridership data. The last time the City collected auto volume data citywide, in a comprehensive way, was over ten years ago. The City would like to conduct citywide multi-modal counts and combine it with speed data collection.

Work underway

The City is just beginning a mid-cycle CARP update, which will create a blueprint for the next phase of the City's climate work from 2025 to 2030 with a focus on implementation steps needed to achieve remaining plan tasks before 2030 and to achieve net zero emissions. One of the tasks of this update is to review and revise performance metrics, including those related to VMT, that are linked to the plan actions and strategies, that are specific and measurable using readily available data to assess whether the measure is progressing toward the final objective.

Recommendation

Focus on determining the best way to measure mode shift, revisiting the two goals in the TCP, determining if it is feasible for the City to use VMT as a metric, and collaborating with the CARP update on a VMT metric.

Active Transportation

The City adopted the [Active Transportation Plan](#) in December 2022, which includes 16 performance measures and targets to track the effectiveness of the Plan projects, programs, and investments in meeting the Plan goals.

Work done to date

The performance measures (see Table 11 of the ATP) are grouped by the Plan goals, and represent measurable data that is reasonably easy to collect and regularly available. Where there are existing, reliable sources, baseline data is included, targets have been set, and target years noted, based on the established frequency of the data collection.

SAFETY

- Number of people walking and bicycling involved in crashes that resulted in an injury (this measure comes from the Vision Zero Action Plan)

EQUITY

- Percent of active transportation improvement projects installed in equity priority communities
- Percent of programming and education in equity priority communities

CONNECTIVITY AND COMFORT

- Number of intersections with pedestrian crossing improvements or upgrades
- Miles of all bikeways
- Miles of low-stress bikeways

COMMUNITY

- Number of schools with active Safe Routes to Schools programs
- Number of 5th grade classes that receive bicycle safety education
- Number of new or upgraded bicycle parking facilities
- Number of encouragement or educational events or campaigns held to support walking and bicycling

MODE SHIFT

- Percent of school-aged children who walk or bicycle to school, at least some of the time
- Number of people walking and bicycling at established count sites and at recently completed capital project locations
- Percent of people walking and bicycling to transit
- Percent of bicycling and walking trips to work, and percent of drive alone trips to work
- Percent of frequent utilitarian and recreational bicyclists
- Percent of frequent utilitarian walkers

Work underway

The first annual report on these performance measures will be included in the 2023 Annual Transportation Report. As noted in the Plan, the City will assess the baseline data for those performance measures that were marked “TBD” and determine appropriate targets, as part of this broader effort to develop performance measures for all transportation modes.

Recommendation

Focus on finalizing the “TBD” measures, and tracking progress toward adopted targets. No new measures needed.

Transit

While the City does not operate transit services, both AC Transit and WETA provide significant transit services in Alameda, and the City operates transit programs such as the paratransit program and makes transit-supportive infrastructure investments, such as installing bus benches.

Work done to date

Since the City began publishing the Annual Transportation Report, the City has been reporting on transit ridership and trends, including for AC Transit, WETA and its own Paratransit programs. The CARP also has a strategy to expand the free transit pass program to more residents.

Work underway

The Annual Transportation and CARP Reports, including the following data reporting:

- Average daily boardings on Alameda bus lines (AC Transit)
- Average daily boardings by bus line (AC Transit)
- Ferry ridership trends, overall and by ferry terminal (WETA)

- Paratransit's Free AC Transit Bus Pass Program ridership and monthly boardings
- Paratransit's Transportation Network Company (TNC) Concierge Pilot Program rides and unique users

Recommendation

Develop performance metrics and targets for transit efforts under City control.

Questions for discussion

1. Which types of transit efforts, under the City's control, should the City create metrics or targets for?
2. Should the City report or focus on additional transit performance measures, such as travel times for buses across Alameda and in key commercial corridors?

Sustainability & GHG Reduction Performance Metrics

The General Plan's Sustainability Goal addresses reducing greenhouse gases by lowering reliance on the single occupancy vehicle and reducing VMT. While VMT is addressed above under Transportation Choices/Mode Shift, other areas to reduce GHG that are not addressed under the safety or specific transportation modes topics, include low/zero emission vehicles, micromobility, clean transit vehicles, carpooling/vehicle sharing and telecommuting.

Work underway

The CARP Annual Report summarizes progress, as performance measures, on the CARP strategies for electric vehicle (EV) ownership, EV charging stations, electrification of the City's fleet and telecommuting. As noted previously the CARP is being updated, and performance measures are being re-evaluated and refined. The Transportation Annual Report includes data for two car share companies.

A note: While the City actively promotes the use of electric vehicles through rebates, education and charging infrastructure, the City recognizes that even as the vehicle pool in Alameda becomes greener, vehicle usage still has impacts on perceived and actual safety of vulnerable users as well as congestion, and therefore, the City promotes shifting away from personal vehicles to reduce VMT as a first priority.

Recommendation

In conjunction with the CARP update, the City should further develop the performance measures already being reported on (as listed above); develop measures for micromobility, clean transit vehicle adoption, and carpooling; and consider developing targets.

Overall Questions for Discussion

1. What are the questions that you'd like to have answered with this performance monitoring?
2. What level of resources (staff time and funding) is right for the City to place on collecting and analyzing data, knowing that data sources are imperfect and that this work takes away from work implementing projects and programs?
3. Are there other metrics or targets the City should be considering?

Consultant Tasks

1. Review existing City transportation performance measures, metrics, targets and available City data.
2. Review existing relevant data from neighboring cities, transit agencies, Alameda County, Alameda CTC and the region.
3. Develop best practices memo for cities of a similar size to Alameda
4. Recommend a package of performance metrics and targets that address the four General Plan goals, building on those in existing City Plans.
5. Recommend a data collection plan to collect baseline data and future year data, and assist City with implementation in 2024/25.