

4 TRANSPORTATION ELEMENT

Virtually every street in Alameda is a residential street. Therefore, transportation decisions need to balance the goals of moving traffic smoothly and quickly with Alamedans much loved quality of life. As they have in previous Transportation Workshops, including the 1990 General Plan update meetings, Alamedans have made it clear that they are willing to forgo high speed streets in order to accommodate the community aspects that are fostered by slower speeds.

As has been the goal in Alameda for decades, the Transportation Master Plan (TMP) envisions a city that is actively supportive of a multimodal transportation system (incorporating automobiles, transit, bicycles, walking, and the needs of people with disabilities). Traffic volume is one of the key concerns of Alamedans, and the TMP recognizes that our city cannot reduce traffic volumes while implementing projects and programs that rely heavily on automotive use only and negatively impact the use of other modes.

The main island of Alameda's historic street grid and the entire City's overall flatness and temperate weather make Alameda a city that can effectively encourage bicycling and walking for a lot of intra-island trips. Traffic congestion concerns on our bridges and tubes call for increasing High Occupancy Vehicle trips (e.g. buses, carpools, and ferries) for off-island trips. It is important that with the upcoming build-out of Alameda Point and other large scale projects, the City work to reduce the impact of automobile trips on the quality of life for residents and on the easy, safe use of non-automotive transportation modes.

4.1 CIRCULATION GOAL

Plan, develop and maintain a safe, barrier-free and efficient transportation system to provide the community with adequate present and future mobility.

Objective 4.1.1: Provide for the safe and efficient movement of people, goods, and services.

Policies

4.1.1.a Maintain a consistent multimodal classification system of streets throughout the City that will be the basis for identifying vehicle

commuter routes, transit routes, bike lanes, as well as corridors for other modes of transportation.

1. Continue to identify and improve pedestrian crossings in areas of high pedestrian use where safety is an issue.
- 4.1.1.b Enhance pedestrian safety and mobility, particularly in high pedestrian use areas, applying methods consistent with the hierarchy classification of streets identified in 4.1.1.a.
1. Identify and mitigate impediments and obstacles to walking to locations that attract pedestrians, such as business districts, schools, transit stops, recreational facilities, and senior facilities.
 2. Develop needed connections that maximize direct access for walking. Examples include legs of intersections where crossing is currently prohibited.
 3. Modify signal timing as required to provide pedestrians with sufficient crossing time and minimize pedestrian/vehicle conflicts.
 4. Identify locations where lighting should be enhanced to provide better visibility and a more comfortable nighttime environment for pedestrians.
- 4.1.1.c Implement and maintain a Truck Route map coordinated with the private sector and neighborhood representatives.
- 4.1.1.d Provide a network of facilities to allow for the safe conveyance of bicycle traffic on all streets and in all sections of the city.
- 4.1.1.e Support a convenient, cost-effective public transit system to serve the mobility needs of all segments of the population, including citizens with disabilities, to and from major destinations in Alameda and throughout the region.
- 4.1.1.f Design transportation facilities to comply with accepted design and safety standards or guidelines including the use of design features and materials that do not adversely impact on people with disabilities.
1. Upgrade existing pedestrian signals by adding countdown, audible, and tactile/vibrational signals. New signals should include these as standard features.

- 4.1.1.g Work with appropriate regional agencies to identify the feasibility of developing presently unavailable alternative modes such as citywide and regional light rail, expanded ferry options and Bus Rapid Transit.
- 4.1.1.h Encourage traffic within, to, and through Alameda to use the appropriate street system by providing clear and effective traffic control measures to promote smooth flow without unduly disrupting the quality of life for residents.
- 4.1.1.i Design transportation facilities to accommodate current and anticipated transportation use.
- 4.1.1.j Maintain the historic street grid and maximize connectivity of new developments to the grid, as well as within any new developments.
- 4.1.1.k Minimize the creation of improvements that would physically interrupt existing grid systems, such as cul-de-sacs or diverters.
- 4.1.1.l Develop and implement a list of priority projects that support level of service standards.
- 4.1.1.m Develop a set of design criteria for safe passage of transit users, bicyclists, pedestrians, and people with disabilities through or around construction sites.
- 4.1.1.n Develop criteria for prioritizing specific transportation projects or types of projects to make the most effective use of resources.
- 4.1.1.o Establish a transportation system management program that provides both mobility and accessibility for people, freight, and goods at all times.
 - 1. Employ transportation system management measures to improve traffic and transit movements and safety for all modes of travel. For example, coordinating and synchronizing signals.
 - 2. Manage operations to maintain acceptable levels of LOS
 - a. Develop and implement a strategy to increase the use of alternative modes of transportation by 10 percentage points by the year 2015.
 - b. Reduce the percentage of Alameda traffic made up of single occupant vehicle trips (e.g. based on Census data, or do survey to establish baseline)
 - c. Shift 10 percent of peak hour trips to less congested

- times of day
- d. Collaborate with AUSD to explore opportunities to reduce congestion during peak school times, for example staggering class times, encouraging parents to carpool, etc.

Objective 4.1.2: Protect and enhance the service level of the transportation system.

Policies

- 4.1.2.a Develop multimodal level of service (LOS) standards that development will be required to maintain by encouraging the use of non-automotive modes.
- 4.1.2.b Monitor the multimodal level of service at major intersections to identify priorities for improvement.
- 4.1.2.c Promote methods to increase vehicle occupancy levels.
- 4.1.2.d Support and monitor the City's Traffic Capacity Management Procedure (TCMP), which was developed to meet the City's development and transportation goals west of Grand Street.
- 4.1.2.e Work with regional, state, and federal agencies to develop plans for design, phasing, funding, and construction of facilities to enhance multimodal cross-estuary travel, such as increased access to Interstate 880 (bridge, tunnel or other vehicle connection) bike/pedestrian shuttles or high occupancy vehicle-only crossing (e.g. transit or carpool lane) to Oakland.
- 4.1.2.f Create interagency working groups to discuss ways of mitigating impacts on circulation generated from outside the impacted agency's jurisdiction.

Objective 4.1.3: Preserve mobility for emergency response vehicles and maintain emergency access to people and property.

Policies

- 4.1.3.a Consider emergency response goals in long-range transportation planning and while designing current projects.
- 4.1.3.b Work with public safety agencies to adequately consider emergency response needs.

- 4.1.3.c Develop a network of emergency response routes, balancing emergency service needs with vehicular, pedestrian and bicycle safety consistent with the adopted street classification system.

Objective 4.1.4: Encourage, promote and facilitate proactive citizen participation to determine the long-term mobility needs of our community.

Policies

- 4.1.4.a Maintain a public forum, such as the Transportation Commission, to facilitate citizen input on transportation policy.
- 4.1.4.b Assist in efforts to facilitate dialogue between City departments, residents, and neighborhood organizations.

Objective 4.1.5: Consider the transportation needs of the community, including those with limited mobility options.

Policies

- 4.1.5.a Maximize compliance of transportation facilities with Americans with Disabilities Act (ADA) requirements.
- 4.1.5.b Continue to support the Paratransit program.
- 4.1.5.c Continue to support the fixed-route AC Transit system to provide mobility for all, including those without access to personal transportation.

Objective 4.1.6: Increase the efficiency of the existing transportation system by emphasizing Transportation System Management (TSM) strategies and Transportation Demand Management (TDM) techniques.

Policies

- 4.1.6.a Identify, develop, and implement travel demand management strategies to reduce demand on the existing transportation system.
1. Establish peak hour trip reduction goals for all new developments as follows:
 - 10 percent peak hour trip reduction for new residential developments
 - 30 percent peak hour trip reduction for new commercial developments

2. Develop a TDM toolbox that identifies a menu of specific TDM measures and their associated trip reduction percentages.
 3. Develop a citywide ITS infrastructure assessment using a Systems Engineering approach to determine capital investment needs.
 4. Require implementation of ITS infrastructure as part of all new developments.
- 4.1.6.b Identify locations where signal coordination could be employed to improve traffic flow and reduce vehicle emissions.
- 4.1.6.c Coordinate with the appropriate agencies to utilize emerging technologies and Smart Corridor techniques (e.g. transit-priority systems for traffic signals and real-time information to enable travelers to choose the best routes) for the bridges and tubes.
1. Integrate with existing regional ITS initiatives such as SMARTCORRIDORS.org, 511.org, Integrated Congestion management for the I-880 corridor, etc., to improve capacity at the bridges, tubes and corridors.
 2. Collaborate with neighboring jurisdictions such as Oakland and San Leandro to ensure a coordinated approach to ITS implementation.
 3. Work with transit agencies in linking their ITS infrastructure to enhance operational efficiency along the City's egress and ingress corridors.
- 4.1.6.d Minimize the cross-island portion of regional vehicular trips by providing alternative connections to Oakland, such as Water Taxis, shuttles, and a Bicycle Pedestrian Bridge and by encouraging Transportation Systems Management (TSM) and Transportation Demand Management (TDM) techniques.
- 4.1.6.e Support and maintain an up-to-date Transportation System Management (TSM) and Transportation Demand Management (TDM) plan consistent with state law to provide adequate traffic flow to maintain established LOS.
1. Develop a TDM plan which would include specific requirements for new developments to implement measures to mitigate their traffic impacts based on an applicable nexus.
 2. Develop one or more sub-area TDM plans to help address the unique conditions of different areas within Alameda.

- 4.1.6.f Require monitoring programs to ensure that TSM and TDM measures mitigate impacts.
 - 1. Develop thresholds of significance for ongoing monitoring and evaluation of TSM/TDM measures
- 4.1.6.g Maximize the integration and coordination of various individual modes of transportation to enhance systemwide efficiency.
 - 1. Work with various local and regional transit agencies in integrating their schedules.

Objective 4.1.7: Identify facilities, corridors, mode transfer points, and rights-of-way needed to enhance the viability of non-automobile transportation. Meet long-term mobility needs in order to minimize the need for increased cross-island roadway capacity.

Policies

- 4.1.7.a Identify and address impediments to system-wide mobility.
- 4.1.7.b Identify major activity centers that can function as mode transfer points.
- 4.1.7.c Work with retail development to set aside existing parking areas as well as develop and promote mode transfer points, such as park-and-ride lots, to enhance the use of alternative modes of transportation and to assist the development of an intermodal transportation system.
- 4.1.7.d Develop strategies to preserve and identify required rights-of-way.
 - 1. Pursue opportunities to utilize the corridor of the former Alameda Belt Line railroad for transit, bicycle, and pedestrian transportation.
- 4.1.8.d Study options for an estuary crossing in Alameda's West End for bicyclists, pedestrians and transit.

4.2 LIVABILITY GOAL

Balance the mobility needs of the community with the overall community objective of creating a livable human and natural environment. Coordinate the interaction of transportation systems development with land use planning activities.

Objective 4.2.1: Design and maintain transportation facilities to be compatible with adjacent land uses.

Policies

- 4.2.1.a Buffer land uses adjacent to high volume streets without the use of soundwalls.
 - 1. Where sound walls or buffers exist, breaks for pedestrian access should be provided wherever pedestrian routes would normally occur.
- 4.2.1.b Include landscaping in transportation projects to enhance the overall visual appearance of the facility and improve and treat urban runoff.

Objective 4.2.2: Plan, develop and implement a transportation system that enhances the livability of our residential neighborhoods.

Policies

- 4.2.2.a Protect residential neighborhood integrity by minimizing the impacts of through traffic on low-volume residential streets.
- 4.2.2.b Maintain a Traffic Calming Toolbox, as described on the City Website, and implementation program.
 - 1. Integrate traffic calming elements into new facility design and as appropriate, modify existing facilities to enhance traffic systems management.
- 4.2.2.c Support programs that increase the number of people transported without increasing the number of vehicles.
- 4.2.2.d Develop a program that monitors and reacts to traffic volumes on selected city streets to ensure an appropriate distribution of traffic.
- 4.2.2.e Maintain a speed limit of 25 MPH on all streets in Alameda in order to avoid creating barriers between neighborhoods. Exempt current roadways with speed limits above 25 MPH: Ralph Appezzato Memorial Parkway, Main Street, Constitution Way, Tilden Way, Doolittle Drive, Island Drive, North Loop Road, South Loop Road, and Harbor Bay Parkway.
- 4.2.2.f Encourage the inclusion of amenities, such as benches or art, in pedestrian improvement projects.

Objective 4.2.3: Plan, develop and implement a transportation system that protects and enhances air and water quality, protects and enhances views and access to the water, and minimizes noise impacts on residential areas.

Policies

- 4.2.3.a Street projects should be designed to minimize the requirements for sound mitigation measures. Do not implement street projects that necessitate a soundwall.
- 4.2.3.b Ensure that transportation system improvements comply with accepted noise standards in residential areas. Monitor the noise impacts of the existing transportation system. Identify strategies to mitigate excessive noise conditions.
- 4.2.3.c Identify and pursue opportunities to enhance shoreline access for pedestrians.
- 4.2.3.d Support and prioritize trip reduction strategies that maximize air quality benefits and reduce greenhouse gas emissions.
 - 1. Support the use of alternative fuel vehicles for all transportation modes.
 - 2. Encourage shift of trips to alternative transportation modes. This includes short trips, as these will have a disproportionate impact on air quality.

Objective 4.2.4: Develop a Transportation plan based on existing and projected land uses and plans. Encourage land use decisions that facilitate implementation of this transportation system.

Policies

- 4.2.4.a Encourage development patterns and land uses that promote the use of alternate modes and reduce the rate of growth in region-wide vehicle miles traveled.
- 4.2.4.b Integrate planning for Environmentally Friendly Modes, including transit, bicycling and walking, into the City's development review process.
- 4.2.4.c Encourage mixed use development that utilizes non-single occupancy vehicle transportation modes.

Objective 4.2.5: Manage both on-street and off-street parking to support access and transportation objectives.

Policies

- 4.2.5.a Consider a fully-funded on-street parking permit program in neighborhoods with chronic parking problems and new developments.
- 4.2.5.b Support use of parking in-lieu fees where feasible to increase and encourage public transit options and evaluate the use of shared parking strategies in mixed use areas.

**4.3 Transportation
Choice Goal**

Encourage the use of transportation modes, especially at peak-period, other than the single-occupant automobile in such a way as to allow all modes to be mutually supportive and to function together as one transportation system.

Objective 4.3.1: Develop programs and infrastructure to encourage the use of high occupancy vehicles (HOVs), such as buses, ferries, vans and carpools.

Policies

- 4.3.1.a Update and implement the recommendations of the Alameda Long Range Transit Plan.
- 4.3.1.b Consider the use of strategies to give priority to high occupancy vehicles at the bridges and tubes.
- 4.3.1.c Actively encourage increases in public transit, including frequency and geographic coverage.
- 4.3.1.d Encourage and support efforts to provide information to use environmentally-friendly transportation modes.
- 4.3.1.e Provide amenities or support programs to make using alternative modes a more attractive option.
- 4.3.1.f Reduce vehicle trips through telecommuting or other options.
- 4.3.1.g Establish targets for increasing mode share of non-SOV transportation modes.

1. Increase daily non-SOV mode share (transit, walking, bicycling) by 10 percentage points by 2015 as compared to 2000.
 2. Increase the share of children who walk or bicycle to school by 10 percentage points by 2015 as compared to 2000.
- 4.3.1.h Encourage the creation of transit-oriented development and mixed-use development.
- 4.3.1.i Develop parking management strategies for both new development projects and, as appropriate, for existing development.
1. Establish maximum parking requirements for both new development and, as appropriate, for existing development.
- 4.3.1.j Implement queue jump lanes and other strategies for improving transit operations.

Objective 4.3.2: Enhance opportunities for pedestrian access and movement by developing, promoting, and maintaining pedestrian networks and environments.

Policies

- 4.3.2.a Include improvements to pedestrian facilities as part of City transportation improvement projects (streets, bridges, etc.).
1. Wherever possible provide wide sidewalks that facilitate and accommodate activities such as sidewalk cafes and other pedestrian friendly activities.
- 4.3.2.b Review City sidewalk design standards to ensure continued compliance with requirements of the Americans with Disabilities Act and to better serve pedestrian needs.
1. Evaluate existing sidewalks for compliance with ADA requirements, and to identify possible improvements such as relocating utility installations and poles which block or hinder pedestrian access.
- 4.3.2.c Identify gaps and deficiencies in the City's existing pedestrian network and develop strategies to rectify them.

1. Wherever possible, establish facilities on all natural pedestrian routes (both sides of streets and drives, along visually direct lines to major destinations, etc.).
 2. Establish a program to plan for future pedestrian paths to connect streets, alleys, paths, etc., that are cut off from others (e.g., at the end of a cul-de-sac).
 3. Use observations of common pedestrian behavior, from general studies or direct evidence such as informal paths in Alameda, to improve connections where feasible.
- 4.3.2.d Develop and implement a Pedestrian Master Plan with regard to physical system improvements, as well as programs and policies relating to encouragement, education and enforcement
1. Develop criteria to identify intersections where signal priority could be given to pedestrians to improve and encourage pedestrian trips.
 2. Produce and distribute brochures and other materials to educate residents, especially children and seniors, on walking safely, and encourage walking as an alternative to car trips, including walking to school.
 3. City should work with public and private schools to identify needs and roles in addressing infrastructure, education and encouragement.

Objective 4.3.3: Promote and encourage bicycling as a mode of transportation.

Policies

- 4.3.3.a Maintain and implement the Bicycle Master Plan with regard to physical system improvements (especially the identified priority projects), as well as programs and policies relating to encouragement, education and enforcement.
- 4.3.3.b Include improvements to bike facilities as part of City transportation improvement projects (streets, bridges, etc.).
- 4.3.3.c Identify gaps and deficiencies in the City's existing bike network and develop strategies to rectify them.

Objective 4.3.4: Manage demand placed on the street system through a TDM program to be developed with available funding in accordance with state law.

Policies

- 4.3.4.a Work with major employers to accommodate and promote alternative transportation modes, flexible work hours, and other travel demand management techniques and require that appropriate mitigation be funded through new development if a nexus exists.

Objective 4.3.5: Assess the impacts on all transportation modes (including auto, transit, bike and pedestrian) when considering mobility and transportation improvements.

Objective 4.3.6: Coordinate and integrate the planning and development of transportation system facilities to meet the needs of users of all transportation modes.

Policies

- 4.3.6.a Review and update multimodal design standards for lane widths, parking, planting area, sidewalks, and bicycle lanes to guide construction, maintenance, and redevelopment of transportation facilities consistent with the street classification system.
- 4.3.6.b Identify areas of conflict and of compatibility between modes (e.g. walking, bicycling, transit, automobiles, and people with disabilities). Pursue strategies to reduce or eliminate conflicts, increase accessibility, and foster multimodal compatibility.
- 4.3.6.c Maintain a committee (such as the Interagency Liaison Committee) that works with transit service providers to resolve transit-related problems.
- 4.3.6.d Coordinate efforts with regional funding agencies in order to address Alameda's regional transportation issues.

4.4 IMPLEMENTATION GOAL

Implement and maintain the planned transportation system in a coordinated and cost-effective manner.

Objective 4.4.1: Require developers to reserve and construct (if nexus exists) rights of way, transportation corridors and dedicated

transportation facilities through the development process and other means.

1. Develop design guidelines for pedestrian access in new development and redevelopment areas, including shopping centers, residential developments, and business parks.
2. In any new development or re-development, safe and convenient pedestrian connections between major origins and destinations, including connections within the development and between the development and adjacent areas, should be a high priority in evaluating the site plan.
3. Develop shoreline access design guidelines.

Objective 4.4.2: Ensure that new development implement approved transportation plans, including the goals, objectives, and policies of the Transportation Element of the General Plan and provides the transportation improvements needed to accommodate that development and cumulative development.

Policies

- 4.4.2.a Roadways will not be widened to create additional automobile travel lanes to accommodate additional automobile traffic volume with the exception of increasing transit exclusive lanes or non-motorized vehicle lanes.
- 4.4.2.b Intersections will not be widened beyond the width of the approaching roadway with the exception of a single exclusive left turn lane when necessary with the exception of increasing transit exclusive lanes or non-motorized vehicle lanes.
- 4.4.2.c Speed limits on Alameda's new roads should be consistent with existing roadways and be designed and implemented as 25mph roadways.
- 4.4.2.d All EIRs must include analysis of the effects of the project on the city's transit, pedestrian and bicycling environment, including adjacent neighborhoods and the overall City network.
- 4.4.2.e EIRs will not propose mitigations that significantly degrade the bicycle and pedestrian environment which are bellwethers for quality of life issues and staff should identify "Levels of Service" or other such measurements to ensure that the pedestrian and bicycling

environment will not be significantly degraded as development takes place.

- 4.4.2.f Transportation related mitigations for future development should first implement TDM measures with appropriate regular monitoring; transit, bicycle and pedestrian capital projects; and more efficient use of existing infrastructure such as traffic signal re-timing in order to reduce the negative environmental effects of development, rather than attempting to accommodate them. Should appropriate regular monitoring indicate that these mitigations are unable to provide the predicted peak-hour vehicle trip reductions, additional TDM measures, development specific traffic caps, or mitigations through physical improvements of streets and intersections, consistent with policy 4.4.2.a and policy 4.4.2.b, may be implemented.
- 4.4.2.g After the implementation of quantifiable/verifiable TDM measures (verified through appropriate regular monitoring), and mitigation measures consistent with 4.4.2.f and identification of how multimodal infrastructure relates to congestion concerns, some congestion may be identified in an EIR process as not possible to mitigate. This unmitigated congestion should be evaluated and disclosed (including intersection delay length of time) during the EIR process, and acknowledged as a by-product of the development and accepted with the on-going funding of TDM measures.

Objective 4.4.3: When considering improvements to transportation facilities, the following issues should be addressed: traffic demand, preservation of neighborhood character, impacts to traffic operations including all modes of transportation, protection of historic and natural resources, utility and stormwater needs, the conservation of energy, and maintenance costs.

Policies

- 4.4.3.a Utilize alternative paving materials and/or root barriers to help prevent sidewalk deterioration.

Objective 4.4.4: Prioritize the maintenance of capital investment and maximize the efficient use of the existing street system through operational improvements over new construction.

Policies

4.4.4.a Implement programs to fund maintenance of the existing and future transportation systems to the extent feasible to meet desired service levels.

1. Include Pedestrian Master Plan projects in the Capital Improvement Program.
2. Apply for available grant funding for pedestrian improvement projects.
3. Establish an annual program to install curb ramps at crosswalks throughout the City to comply with the Americans with Disabilities Act (ADA).

4.4.4.b Coordinate with utility construction, maintenance schedule and public agencies.

4.4.4.c Continue to regularly update the City's pavement management system (PMS) program.

1. Develop guidelines for choosing appropriate street trees and avoiding species with aggressive roots that can cause sidewalk damage.

4.4.4.d Pursue funding opportunities to implement Citywide ITS infrastructure.

Objective 4.4.5: Develop service level standards for the operation and maintenance of public works infrastructure, including streets, bridges, pedestrian ways, bicycle facilities and intersections.

Objective 4.4.6: Work with area employers and other stakeholders to develop one or more TMAs to implement TDM programs

Policies

4.4.6.1 For new development projects, require residential, business associations, property owners, and lessees to be dues-paying members in the TMA, as allowed by law.

4.4.6.2 Encourage existing and previously approved developments to join a TMA, through which they would contribute toward, and benefit from, TDM programs.

Objective 4.4.7: Require developers to contribute toward the

implementation of appropriate TSM/TDM measures to mitigate the impacts of their projects on the bridges, tubes, specific intersections, and corridors.

Policies

4.4.7.a Develop standardized method for calculating the appropriate financial contribution for TSM/TDM fees.

4.4.7.b Develop TSM/TDM fee collection mechanism.

Objective 4.4.8: Work with AUSD to include transportation choice awareness in education in the schools.

STREET CLASSIFICATION SYSTEM

In Alameda, Street classification system is divided into three categories:

Street Types

Land-use Classifications

Transportation Mode Classification

Street Types:

Street types range from regional arterials to local streets. Each street type reflects the function of the street relative to the rest of the network. Streets in Alameda are classified as follows:

- Regional Arterial
- Island Arterial
- Transitional Arterial
- Island Collector
- Transitional Collector
- Local Street

Generally, Regional Arterials serve the major activity centers of a city and provide for the longest trip lengths, highest traffic volumes, and most through traffic. Regional Arterials connect to smaller Island Arterials, which due to the City of Alameda's extensive grid network and residential character, allow cross-island traffic to be channelized from the neighborhoods. Collectors, which serve as a funnel for local streets from specific neighborhoods, feed into the Island Arterials. Collectors are scaled down appropriately and are more common than arterials while local streets carry the least amount of traffic but are the most prevalent. These classifications are discussed in further detail below and a street classification map is presented in the figure below.

The land use and transportation mode classifications were developed to provide additional information about the context of each street. To apply this information to the City's street network, these classifications would be overlaid on the street type layer. The land use and modal overlays are then used to identify appropriate design treatments and modal preferences for each street. For example, a street that is classified as an island arterial, a primary transit street, but not a bicycle priority street could potentially include bus bulbs to facilitate transit access, even though this would preclude the installation of a bicycle lane.

Regional Arterials

Regional Arterials carry the heaviest volumes of traffic on the longest trip lengths including intercity trips and regional through traffic. Connections to regional attractions such as state highways, shopping districts, colleges, and major recreational areas are a key attribute. Auto mobility is an important, but not the only feature of regional arterials as traffic is generally regional in nature and traveling a greater distance. Specific design features that foster livable streets and multi-modal access can be applied through the land use and modal overlay classifications.

Design and Operational Features:

Primary Functions

- Serve long distance, regional automobile and transit trips.
- Provide access to regional freeway network.
- Provide access to regional attractions such as shopping districts, colleges, employment centers, and major recreational areas

Number of Lanes

- 3 to 4 automobile lanes. This should be determined through the operational evaluation and should be tied to the thresholds (LOS), which are to be developed as part of the TMP, and weighed against neighborhood livability issues.
- May include exclusive transit lane in the future.
- May include bike lanes if along a bicycle priority street.

Congestion Tolerance

- Lowest degree of congestion tolerance among street types.
- Mitigation measures must be balanced against the needs of other modes and the surrounding land uses.
- Congestion should be reduced where possible in order to promote efficient person and good circulation as well as improve transit operations. The level of congestion that is acceptable should be determined through the thresholds (LOS) for different modes of transportation and balanced against neighborhood livability issues. These thresholds are to be developed as part of the TMP.

Traffic Calming Measures

- Non-intrusive measures may be applied to maintain the posted speed limit.

Island Arterials

Island Arterials serve to complement regional arterials by providing cross island access for local intra-island trips through generally residential neighborhoods. The street classification constraints of a residential, island community with a limited number of portals are addressed in the designation of Island Arterials. These streets generally carry shorter trip lengths, do not have regional destinations, and carry less traffic volume than regional arterials. Auto mobility is a feature emphasized on Island Arterials due to their cross-island connectivity but to a lesser extent than regional arterials because of the residential nature of the Island Arterials. The grid network in Alameda allows for the distribution of traffic along several Island Arterials rather than channel all the traffic to large Regional Arterials that would separate the neighborhoods. In general, Island Arterials will be narrower than their regional counterparts and more integrated into the surrounding neighborhoods.

Design and Operational Features:

Primary Functions

- Serve shorter distance, local trips that begin and end within the City.
- Connect traffic between local and collector street network, and regional arterial system.

Number of Lanes

- 2 to 3 automobile lanes. Although some Island Arterials currently have capacity for four lanes, the residential nature of these streets should be preserved while providing for the intra-island connection to Regional Arterials. An operational analysis should be used to determine the number of lanes and needed. The number of lanes should be based on the thresholds (LOS) for different modes of transportation and weighed against neighborhood livability issues.
- May include bike lanes if along a bicycle priority street.

Congestion Tolerance

- Higher levels of congestion acceptable to improve multi-modal access and accommodate the needs of surrounding land uses. The level of congestion should be based upon the thresholds (LOS) for different

modes of transportation and balanced against neighborhood livability issues.

Traffic Calming Measures

- More frequent use of non-intrusive traffic measures may be applied to maintain posted speed limit and address neighborhood livability issues.

Transitional Arterials

The classification of Transitional Arterial indicates a street that is currently classified as, and operates as an arterial but is desired to operate as an Island Collector. This is in contrast to the Island Collector classification, which already operates as such. Through a series of measures, either implemented today or in the future, the street's traffic volumes and/or trip characteristics will be altered to the point that a lower classification is warranted. Measures that can be taken along a transitional arterial include traffic calming, opening a new street, and other methods to move traffic away from the Transitional Arterial and onto a nearby street, preferably an arterial. Transitional Arterials should only be classified as such when alternate routes are in close proximity.

Design and Operational Features:

Primary Functions

- Currently serves as a Regional or Island Arterial
- Desire is for the street to function as an Island Collector in the future.

Number of Lanes

- 2 to 3 automobile lanes.
- May include bike lanes if along a bicycle priority street.

Congestion Tolerance

- Higher levels of congestion acceptable to improve multi-modal access and accommodate the needs of surrounding land uses.

Traffic Calming Measures

- More advanced traffic calming measures such as street narrowing can be applied to divert through traffic to other streets (preferably other arterials), maintain posted speed limit, and improve general livability.

Island Collectors

Island Collectors serve to balance mobility and land access. Usually spaced more frequently than the arterials, Island Collectors carry less traffic volume but provide for more direct land access for vehicles. Island Collectors typically funnel all local traffic onto arterials for longer trips and disperse arterial traffic onto local streets for local traffic.

Collector streets are called Island Collectors in the City of Alameda. Island Collectors differ from traditional collector streets in that they form part of the City of Alameda's historical grid system. As part of this system, Island Collectors are expected to carry more traffic than what would be expected from a typical collector.

Design and Operational Features:

Primary Functions

- Funnel traffic between local streets and the arterial network
- Provide access to local attractions, where applicable, such as schools and parks

Number of Lanes

- 2 to 3 automobile lanes
- May include bike lanes if along a bicycle priority street

Congestion Tolerance

- Land access, neighborhood livability, and multi-modal access balanced equally with congestion reduction measures

Traffic Calming Measures

- More advanced traffic calming measures such as street narrowing (bulb-outs) can be applied to divert through traffic to other streets (preferably other arterials), maintain posted speed limit, and improve general livability

Transitional Collectors

Similar to Transitional Arterials, Transitional Collectors currently function as Island Collector streets but are desired to operate as Local Streets. This is in contrast to the Local Street classification, which already operates as such. Through a series of measures, either implemented today or in the future, the

street's traffic volumes and/or trip characteristics will be altered to the point that a lower classification is warranted.

Measures that can be taken along a Transitional Collector include advanced traffic calming, opening a new street, and other methods to move traffic away from the Transitional Collector and onto a nearby street, preferably an arterial or collector. Transitional Collectors should only be classified as such when alternate routes are in close proximity.

Design and Operational Features:

Primary Functions

- Currently serves as an Island Collector.
- Desire is for the street to function as a Local Street in the future.

Number of Lanes

- 2 automobile lanes.

Congestion Tolerance

- Land access, neighborhood livability, and multi-modal access takes precedence over congestion reduction measures.

Traffic Calming Measures

- All available traffic calming measures may be applied to divert through traffic to other streets (preferably other arterials or collectors), maintain posted speed limit, and improve general livability.

Local Streets

Local streets make up the rest of the City's street network and provide for direct land access with auto mobility as a secondary feature. Local streets are the most common streets by mileage but carry the least amount of traffic over the smallest trip distances.

Design and Operational Features:

Primary Functions

- Serve abutting land uses
- Serve as an extension of neighborhood life

Number of Lanes

- 2 automobile lanes, usually unmarked

Congestion Tolerance

- Land access, neighborhood livability, and multi-modal access takes precedence over congestion reduction measures

Traffic Calming Measures

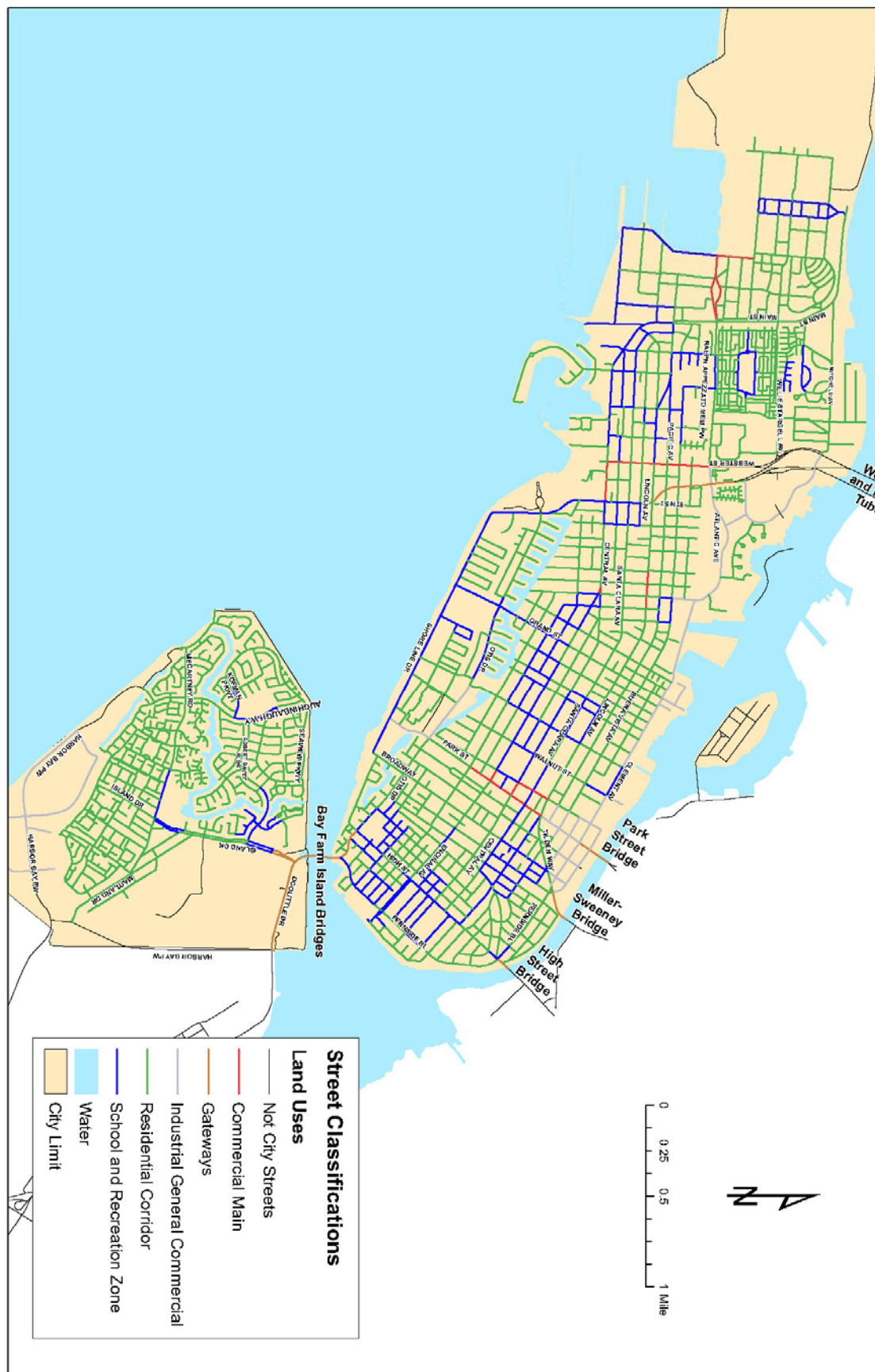
- All available traffic calming measures may be applied to divert through traffic to other streets (preferably other arterials or collectors), maintain posted speed limit, and improve general livability

Land Use Classification:

The land use overlay describes the interaction between the roadway and the surrounding area, as well as the design treatment examples.

Land use Classifications include:

1. Residential Corridor Street
2. Commercial Main Street
3. General Commercial and Industrial Street
4. School and Recreational Zone
5. Gateway Street



1. Residential Corridor Street

Most of the streets in the City of Alameda are fronted by residential land uses which contribute to the City's unique character and small town feel. Some of these streets, however, because of their location and cross-section function, serve as arterials or collectors and carry high volumes of motor vehicle traffic on the island. The result is that the residences along these streets experience noise and congestion. Residential Corridors are designated to enhance street livability (landscaping to reduce noise, providing a tree canopy, on-street parking, etc.) and provide access to the communities they serve while preserving mobility for all modes of travel.

Design and operational Features:

- **Landscaped or painted medians at key locations if space allows**
 - o Encourage 25mph driving by reducing perceived street width
 - o Improve aesthetics
 - o Act as a pedestrian refuge island at crosswalks
 - o Recommended only for arterials and other 3 to 4-lane streets
- **Wider sidewalks**
 - o Improve pedestrian comfort
 - o Create street as a place
- **Landscaped sidewalk buffer**
 - o Reduce street noise
 - o Improve pedestrian comfort
 - o Encourage 25mph driving by reducing perceived street width
- **Curb extensions**
 - o Improve pedestrian comfort and crosswalk safety
 - o Encourage 25mph driving by reducing perceived street width
- **Bicycle markings on designated routes**
 - o Bike lanes
 - Single white line for flexibility
 - Avoid parked car door area
 - Proper intersection treatments including continuing lane through intersection
 - o Sharrow markings to indicate shared lanes
 - o Providing bicycle loop detectors
- **On-street parking**
 - o Provide for residential access
 - o Improve pedestrian comfort

- **Adequate travel lanes**
 - o Design and operations should allow for access to residential properties and minimize impacts to residential driveways
 - o Encourage 25mph driving
- **Travel lane width**
 - o Narrower travel lane width (or perceived width) through striping
 - o Encourage 25mph driving
- **Block Length**
 - o New developments should have block lengths of 400'-500'
 - o Maintain neighborhood connectivity
 - o Encourage walking and bicycling by providing multiple paths

2. Commercial Main Street

Commercial Main Streets are designed to serve adjacent, street facing, commercial land uses. Multi-modal access is emphasized through the placement of pedestrian amenities, bicycle facilities, transit access, and on-street parking. The street itself is promoted as a place and destination through the use of wider sidewalks, landscaping, and special paving. Building frontages should maintain a common setback and entrances should be oriented facing the street.

Curb cuts and driveways are minimized to help promote a continuous street frontage and to enhance pedestrian safety and environment. On-street parking preservation is to be encouraged over other pedestrian or bicycle improvements if there is insufficient right-of-way. Marked pedestrian crosswalks are to be frequent but should be based upon pedestrian activity and activity generators.

Design and operational Features:

- **Parking**
 - o Provide adequate on-street and off street parking for commercial access
 - o Improve pedestrian comfort by having on-street parking
 - o Parallel parking or angle parking if sufficient right-of-way
 - Bicycle safety should be considered when implementing angle parking – back-in parking offers higher degree of safety
 - o Minimize driveway/intersections to increase parking, reduce vehicular conflicts, and improve pedestrian walkway

- **Parking safe-zone**
 - o Act as a buffer between parallel parking area and travel lanes
 - o Make use of special paving to mark safe-zone
- **Bicycle facilities**
 - o Encourage bicycle access
 - Bike racks on each block if space is available
 - Bike lanes or Bike Route (Class III) if sufficient width is available
 - Continue lanes through intersections, bicycle loop detectors
 - Bicycle facility and destination signage
 - o Maintain proper riding distance from parallel or angle parking
- **Wide sidewalks**
 - o Improve pedestrian comfort
 - o Promote street as a place and a destination
- **Landscaped sidewalk buffer**
 - o Reduce street noise
 - o Improve pedestrian comfort
 - o Encourage 25mph driving by reducing perceived street width. However, the width of the travel lane should be adequate to accommodate commercial vehicle traffic
- **Special paving for crosswalks**
 - o Improve pedestrian comfort and safety
 - o Alert motorists to pedestrian presence
 - o Highlight street as a retail district
- **Curb extensions**
 - o Improve pedestrian comfort and safety
 - o Encourage 25mph driving by reducing perceived street width
- **Adequate travel lanes**
 - o Provide sufficient lanes for adequate capacity to minimize queuing and impacts to residential and commercial driveways and to maintain arterial functionality
 - o Encourage 25mph driving
- **Travel lane width**
 - o Narrow travel lane width (or perceived width) through striping
 - o Encourage 25mph driving

- **Block Length**
 - o New developments should have block lengths of 400'
 - o Maintain commercial main street connectivity
 - o Encourage walking and bicycling by providing multiple paths

3. General Commercial and Industrial Street

Serving the industrial, shopping, and office areas of Alameda, General Commercial and Industrial Streets are designed to handle a significant amount of truck and heavy vehicle traffic. Truck access to the adjacent industrial land uses is provided through wider travel lanes and turning radii at intersections. On-street parking is restricted where necessary. Pedestrian and bicycle access should still be maintained but with fewer amenities than the Residential Corridor or Commercial Main Streets.

Design and operational Features

- **Wider travel lanes**
 - o Safely accommodate truck traffic
- **Larger turning radii**
 - o Safely accommodate truck traffic
- **Parking**
 - o Provide for loading and unloading areas – off street loading and unloading areas should be encouraged
 - o Sufficient off-street parking is provided in accordance with the General Plan parking requirements
 - o Accommodate wider travel lanes
 - o Minimize driveways and intersections to provide on-street parking where needed and to reduce vehicular conflicts
- **Sidewalks**
 - o Provide for safe pedestrian access
 - o Can be narrower than Residential Corridor or Commercial Main Streets, except on designated trail corridors, and should be in accordance with ADA guidelines
- **Bicycle Facilities**
 - o Bike Lanes (Class II) or Bike Routes (Class III) on designated bicycle routes

4. School and Recreational Zone

Along streets in a designated School and Recreational Zone, pedestrian and bicycle accommodations are to be evaluated in conjunction with other street functions. Many of the schools in the City are found along Regional and Island Arterials and Island Collectors and therefore the features in this overlay need to be balanced against other features such as the number of travel lanes and lane width. School and Recreational Zones are identified within the 2 block radius around each school, public and private.

Streets that serve parks, libraries, beaches, and other high pedestrian traffic generators are also be included in the School and Recreational Zone classification. Along these streets, pedestrian comfort and safety will receive the highest priority in street design while maintaining the multimodal characteristics of the street. Curb extensions, wider sidewalks, and landscaped medians along with other treatments will be used to enhance the pedestrian environment.

Design and Operational Features

- **Crosswalks**
 - o Special paving, marking, and lighting for designated crosswalks to alert motorists of school zone
 - o Marked at each intersection along Safe Route to School
 - o Mid-block for longer blocks or where significant crossings occur
 - o Provision of in-street pedestrian signs or in-pavement lights where appropriate
- **Curb extensions**
 - o Improve pedestrian comfort and safety
 - o Encourage School Zone speed limit by reducing perceived street width
- **Landscaped medians**
 - o Encourage School Zone speed limit by reducing perceived street width
 - o Improve aesthetics
 - o Act as a pedestrian refuge island at crosswalks
- **Narrower travel lanes**
 - o Encourage School Zone speed limit by reducing perceived street width
 - o Reduce crosswalk traffic exposure

- **Wide Sidewalks**
 - o Improve safety and comfort of pedestrians
- **Bicycle Facilities**
 - o Wider bicycle lanes for children on designated routes
 - o Proper intersection treatment such as signage and lane markings through intersection to improve safety
 - o Bike Lanes (Class II) or Bike Routes (Class III) on designated bicycle routes
- **On-street parking**
 - o Provide for adjacent land use access
 - o Improve pedestrian comfort
- **Landscaped sidewalk buffer**
 - o Reduce street noise
 - o Improve pedestrian comfort
 - o Encourage School Zone speed limit by reducing perceived street width

5. Gateway Street

As an island city, Alameda has a limited number of entryways and points of egress, or “gateways” into the city. The gateways are designed to provide a sense of arrival to residents and visitors coming into the city and to eventually distribute them onto the arterials and other city streets. Proper signage and street design elements should be present to welcome arrivals as well as to set the tone for lower driving speeds in the city. Motorists and other traffic moving between the Main Island and Harbor Bay Isle should keep a sense of continuity between the two parts of the city.

Gateways also serve those who wish to leave the city by channeling traffic from city arterials to the rest of the regional network. Egress traffic should be multi-modal and seamless with the connecting networks.

Design and Operational Features:

- **Landscaped medians towards end of gateway**
 - o Reduce visual broadness of roadway to encourage slower speeds
 - o Enhance aesthetic appeal of gateway
- **Narrowed travel lanes and/or right of way towards end of gateway**
 - o Reduce visual broadness of roadway to encourage slower speeds

- **Welcome signage**
 - o Provide a sense of arrival
 - o Encourage motorists to “Drive 25” in Alameda
 - o Encourage multi-modal travel in Alameda
- **Bicycle and Pedestrian facilities where applicable**
 - o Connect all modes to the rest of the region
 - o Enhance pedestrian and bicycle comfort and safety
- **Seamless connection with outside network**
 - o Collaborate with Oakland, Caltrans, AC Transit, and Alameda County to provide multi-modal connectivity
 - o Further collaboration to address tube and bridge connectivity to Oakland and regional network

Modal Classifications:

Modal classifications are used to denote the preferred mode of travel on a particular street segment, as well as appropriate design treatments. All streets have a limited amount of right of way available and the modal network connectivity should be preserved within these constraints.

Modal overlays include:

1. Transit Priority
2. Bicycle Priority
3. Truck Route





1. Transit Priority

The Transit Priority street classification is broken down into three groups, each with its own set of design and operational features. The Transit Priority street classification does not imply that a specific type of transit or level of service will run on the street; it refers to the preference of transit on the street and the type of design features that would be prioritized. For all Transit Priority street classifications, the pedestrian environment needs to be incorporated into plans, as this is the primary mode of transit access.

Streets not classified as Transit Priority streets could nevertheless be used by such non-traditional transit services as neighborhood shuttles, paratransit, electric buses, etc. Non-classification does not preclude the use of full size school buses on specialized “School Routes” as necessary.

Design and Operational Features

Primary Transit Street:

Provide for high volume and frequent, regional, and city wide transit service. Provide frequent, moderate speed, high capacity service between major regional and city ridership generators. Primary transit streets are candidates for transit priority treatments such as queue jump lanes, limited/local stop service and traffic signal priority/pre-emption. Primary Transit Streets are candidates for Bus Rapid Transit, Streetcars, and other fixed guideway projects.

- **Bus bulb-outs**
 - o Improve transit operations
 - o Clearly designate bus stop location
- **Lane widths and curb returns**
 - o Wider lane widths or wider curb lanes to minimize conflicts with bicyclists
 - o Wider radii, and lane widths or wider curb lanes to accommodate transit vehicles
- **Enhanced bus stops**
 - o Shelters, benches, and other amenities to improve transit service experience and encourage transit use
 - o Clearly designate bus stop location
 - o Far side bus stops at intersections to improve bus operations and safety

- **Passenger information**
 - o Provide up-to-date schedule and routing information
 - o Provide surrounding neighborhood map
 - o Provide real-time bus arrival information as available
 - o Enhance transit service experience
 - o Encourage transit use
- **Signal priority, right-of-way priority**
 - o Examples include, queue jump lanes, and signal pre-emption
 - o Improve transit operations
 - o Useful for longer, congested corridors and frequent service areas
- **Pedestrian amenities**
 - o Wide sidewalks
 - o Curb extensions
 - o Crosswalk paving, markings
 - o Landscaped sidewalk buffer

Secondary Transit Street:

Provide for local and neighborhood transit service without physical priority treatments.

- **Bus bulb-outs**
 - o Improve transit operations
 - o Clearly designate bus stop location
 - o Lower priority than Primary Transit Streets
- **Bus stops**
 - o Shelters, benches, and other amenities to improve transit service experience and encourage transit use
 - o Clearly designate bus stop location
 - o Lower priority than Primary Transit Streets
- **Pedestrian amenities**
 - o Wide sidewalks
 - o Curb extensions
 - o Crosswalk paving, markings
 - o Landscaped sidewalk buffer
 - o Lower priority than Primary Transit Streets

Exclusive Transit Right of Way:

Identify future dedicated right of way routes for bus rapid transit or light rail service. Possible candidates include Lincoln Avenue which is a centrally located Island Arterial with numerous residential areas surrounding. Connects to main commercial areas on Webster Street and Park Street.

- **Bus Rapid Transit or Light Rail**
 - o High capacity, frequent transit service for intra-city and regional transportation
- **Lane widths and curb returns**
 - o Wider lane widths or wider curb lanes to minimize conflicts with bicyclists
 - o Wider radii, and lane widths or wider curb lanes to accommodate transit vehicles
- **Bus bulb-outs**
 - o Improve transit operations
 - o Clearly designate bus stop location
- **Enhanced bus stops/stations**
 - o Raised platform for level boarding
 - o Platform length shelters and seating areas
 - o Off-vehicle fare payment
 - o Clearly designate transit corridor / transit way
 - o Improve transit service experience and encourage transit use
- **Passenger information**
 - o Provide up-to-date schedule and routing information
 - o Provide surrounding neighborhood map
 - o Provide real-time bus arrival information as available
 - o Enhance transit service experience
 - o Encourage transit use
- **Signal priority/pre-emption, right-of-way priority**
 - o Improve transit operations
 - o Useful for longer, congested corridors and frequent service areas
- **Pedestrian amenities**
 - o Wide sidewalks
 - o Curb extensions
 - o Crosswalk paving, markings
 - o Landscaped sidewalk buffer

- o Equal priority as Primary Transit Streets
- o Connectivity to other modes, adjacent neighborhoods and destinations

2. Bicycle Priority

Streets identified on the bicycle network map are candidates for class I (off road path), class II (bike lanes), and class III (shared lanes) bike routes. These streets are identified in order to provide a network of streets that give cross-island access to bikers of all abilities. These streets should be prioritized for the implementation of bicycle loop detectors at all traffic lights and directional signage for cyclists, as well as safety improvements such as bike lanes and sharrows to increase the use of these facilities. The identified bicycle network does not preclude the use of bicycles on any streets. Additionally, bicycle loop detectors should be provided at all new signalized intersections regardless of street class.

Design and Operational Features

- **Bike lanes (Class II)**
 - o Single white line for flexibility or dual white line to mark designated lane
 - o Keep bicyclists away from car doors, transit stops, and other hazards
- **On-street Bike Routes (Class III)**
 - o Sharrows or white edge line to remind motorists and bicyclists that a right of way is always shared
 - o Keep bicyclists away from car doors, transit stops, and other hazards
 - o Only use if there is enough room for vehicles to safely pass
- **Network signage**
 - o Direct bicyclists to safest routes across city
 - o Remind motorists of bicycle presence
- **Intersection treatments**
 - o Higher priority for bike-actuated loop detector upgrades at existing auto-actuated traffic signals
 - All new auto-actuated traffic signals shall receive bike actuators regardless of classification
 - o Markings to discourage right turn conflicts
- **Bicycle facilities**

- Require new developments to provide Bike racks and parking areas to access adjacent land uses

3. Truck Route

The Truck Route Network is designed to maintain a limited number of streets on which through truck traffic is allowed. Truck traffic is allowed to use non-truck route streets when it is necessary in order to reach their destination. Truck drivers must use the truck route for as much of their trip as possible. This network was created in order to give a useful network of streets that will not require excessive off-route driving.

Design and Operational Features

- **Route signage**
 - Alert trucks of truck route locations
- **Intersection design**
 - Sufficient turning radii at intersections frequented by heavy trucks
 - May conflict with transit, pedestrian, and bicycle design goals
- **Roadway design**
 - Sufficient travel lane width (up to 14 feet) to accommodate trucks

In general, trucks have vastly different design needs than those of pedestrians, bicyclists, transit users, or even motorists. Accommodating trucks with bicyclists could be challenging if travel lanes are not wide enough. The street design process will have to balance all of these needs depending on the frequency of truck use and the overall goals of the specific street segment.

List of Future new Streets and Transit Corridors in the City of Alameda

Improvement	From	To	Description
Clement (West)	Grand Street	Hibbard Street	
Clement (West)	Ohlone St.	Sherman Street	
Clement (East)	Broadway	Tilden Way	
Wilver “Willie” Stargell Avenue	Main Street	Fifth Street	
Wilver “Willie” Stargell Avenue	Fifth Street	Webster Street	
Mitchell-Moseley Extension	Mariner Square Loop	A new intersection on Main Street north of Singleton Avenue	
Fifth Street	Wilver “Willie” Stargell Avenue	Mitchell-Moseley	
Mariner Square Drive extension	Mariner Square Loop (east side)	Marina Village Parkway intersection with Constitution	Proposal includes a Park and Ride facility and a direct transit access on to Constitution using the current Mariner Square Drive access.
Alameda Point Dev	New Streets		Various locations
West Alameda Point Ferry Terminal	Sea Plane Lagoon		Relocate Main Street Terminal to Alameda Point
Light Rail Corridor	Fruitvale Avenue Railroad Bridge	Alameda Point	This route uses the Alameda Belt Line Property along Clement to Marina Village to Constitution to old railway property along Atlantic to Alameda Point