Circulation
Richmond General Plan 2030
Community Vision
Richmond, California in 2030

Richmond is served by a modern, interconnected, multimodal transportation system. The City builds on its role as a regional transportation hub, connecting people to destinations throughout the Bay Area and maintaining efficient movement of goods through port and rail operations. Richmond’s circulation system links key regional destinations via convenient freeway access, a trail system, public transportation services including bus (AC Transit), Bay Area Rapid Transit (BART) and train (Amtrak). A bustling ferry terminal provides means for all Richmond residents to travel to and from San Francisco and other Bay Area destinations.

Richmond’s grid-based network of streets balances modes of travel, supports pedestrian and bicycle connectivity, transit accessibility and a smooth flow of vehicular traffic. The City is easily navigable with clear directional signage and barrier-free links connecting all neighborhoods. Many residents rely on walking, bicycling and transit. These travel options are supported by attractive streetscapes, pedestrian amenities, connected hubs and reliable bus service. Crosswalks, sidewalks, traffic calming features, multimodal trails and designated bike routes further provide safe and comfortable conditions for pedestrians and cyclists.
Circulation

The City of Richmond is served by a variety of transportation modes including: two freeways (Interstate 80 and 580), the Richmond Parkway, a BART station located in the heart of the City, a second BART station located at Richmond’s border with El Cerrito, numerous AC Transit bus routes, a growing network of trails, a bicycle network, Amtrak passenger rail service, freight rail, an active port and a proposed future ferry terminal in the Marina Bay area on the southern shoreline.

The Circulation Element:

• Describes Richmond’s circulation network;
• Introduces a place-based approach to circulation planning;
• Highlights key findings and recommendations based on an analysis of existing conditions;
• Defines goals for improving the circulation system and expanding travel options;
• Identifies policies and implementing actions to address transportation needs;
• Provides a summary table identifying lead responsibilities for each implementing action;
• Identifies guidelines related to circulation in specific areas of the City; and
• Reviews the existing regulatory framework that guides circulation planning efforts.

**Purpose of the Element**

The Circulation Element addresses the physical circulation network as well as the various transportation options in Richmond. The Element seeks to ensure efficient mobility and access for all residents, workers and visitors through a safe, interconnected, multimodal transportation system. Goals, policies and implementing actions will guide management of transportation systems in a responsible and well-balanced way. In addition, the Circulation Element presents a strategic approach and decision-making tool tailored to Richmond’s particular transportation environment and needs.

**Legal Requirement**

The Richmond General Plan complies with the State of California mandate that general plans include a circulation element regulating the location and extent of transportation modes, accessways and thoroughfares in the City (Section 65302b). For General Plan discussion purposes, Richmond’s accessways are defined as streets, sidewalks, multi-use trails, railways and waterways. Prevalent transportation modes in the City include pedestrian, bicycle, vehicle, train and boat. As required by state law, the Circulation element correlates with the Land Use and Urban Design Element.¹

Construction of the new BART parking garage structure has freed up a large surface parking area east of the Richmond BART Station for a high density transit-oriented residential development.
Richmond Today

Richmond is served by a freeway and roadway network (I-80, I-580 and Richmond Parkway), BART, AC Transit, Amtrak, the Union Pacific, BNSF and Richmond Pacific Railroads as well as a seaport. The City is also building a growing network of trails and greenways, bicycle lanes and routes. A planned ferry service is also envisioned for the southern shoreline in Marina Bay. The following discussion reviews existing circulation patterns in Richmond, introduces a new approach to circulation planning and describes the intended function and character of Richmond’s various accessways.

Moving People and Goods

“Circulation” refers to the movement of people and goods. An effective circulation system includes the infrastructure to support various modes of travel and connects people to key destinations in an efficient and safe manner. The following discussion is organized into these categories:

- Travel Patterns;
- Walking Patterns and Facilities;
- Bicycling Patterns and Facilities;
- Public Transit;
- Water Transportation;
- Vehicular Travel; and
- Goods Movement.

Travel Patterns

Table 4.1 shows percentages for employee commutes to work by travel type. Fifty-nine percent of Richmond residents drive alone to work as compared to the Bay Area average of 68%. Richmond residents’ overall carpooling and transit trips are higher than the Bay Area average. In contrast, non-Richmond residents traveling to jobs in Richmond tend to drive alone at a higher-than-average rate than in the Bay Area as a whole. This difference in travel choice may reflect the range of transit access and connectivity available to Richmond residents traveling to jobs outside the city as compared to those available to employees coming from other areas into Richmond.

The largest proportion of Richmond residents, 22%, commute to San Francisco, followed by commutes to Oakland, Berkeley, west Contra Costa County and Alameda County. All these destinations are well connected to Richmond via BART and AC Transit. Employees commuting into Richmond come primarily from west Contra Costa County, central Contra Costa County and Solano County. The latter two areas are not as well connected to Richmond via public transit. This may be related to the higher drive-alone rates for non-resident employees in Richmond.

Walking and Bicycling Patterns and Facilities

Richmond has an extensive network of streets, sidewalks and trails that link various neighborhoods to commercial districts and corridors, and to neighboring jurisdictions. The grid-based network of streets in Central Richmond provide an excellent opportunity to further promote walking and bicycling as alternatives to driving. The historic parts of the City, such as Point Richmond, enjoy a high-quality pedestrian environment that can serve as a model for other parts of Richmond.

Table 4.1: Commute to Work by Travel Type

<table>
<thead>
<tr>
<th>Travel Type</th>
<th>Richmond Residents</th>
<th>Nonresidents</th>
<th>Bay Area Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>59%</td>
<td>79%</td>
<td>68%</td>
</tr>
<tr>
<td>Carpool</td>
<td>19%</td>
<td>15%</td>
<td>13%</td>
</tr>
<tr>
<td>Transit</td>
<td>14%</td>
<td>4%</td>
<td>10%</td>
</tr>
<tr>
<td>Walk</td>
<td>2%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
<td>0%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: 2000 United States Census
Note: Due to rounding, values may not total 100% and values less than 0.5% are shown as zero. Given the substantial economic shifts that have occurred since 2000, these percentages may change following the completion of the 2010 Census.
Bicycle facilities are categorized into the following three different classes:

**Class I Bikeway (Bike Path)**

These facilities provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians with vehicle cross-flow minimized.

Examples:
- Point Pinole Regional Park Trails
- Atlas Road between Richmond Parkway and Giant Road
- Wildcat Creek Trail between Rumrill Boulevard and Richmond Parkway
- Sections of the San Francisco Bay Trail

**Class II Bikeway (Bike Lane)**

Bike lanes provide a restricted right-of-way and are designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.

Examples:
- Rumrill Boulevard between San Pablo Avenue and Brookside Drive
- San Pablo Avenue between Road 20 and San Pablo Dam Road
- 22nd Street and 23rd Street between Ohio Avenue and Macdonald Avenue
- Cutting Boulevard between Hoffman Boulevard and Canal Boulevard
- Canal Boulevard between Cutting Boulevard and Seacliff Drive

**Class III Bikeway (Bike Route)**

These bikeways provide a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

Examples:
- Marina Way South between Wright Avenue and Hall Avenue
- Marina Bay Parkway south of I-580
The San Francisco Bay Trail

The San Francisco Bay Trail is a multi-use recreational corridor planned to encircle the San Francisco and San Pablo Bays, ultimately providing 500 miles of bicycling and walking trails. The regional trail will connect nine Bay Area counties and 47 cities that are situated along the shoreline. To date, over 300 miles of the Bay Trail have been completed with 30 miles located in Richmond and an additional 11 miles planned.

The route passes through a variety of environments, from highly urbanized areas like Downtown San Francisco, to inland trails such as the Ridge Trail, and remote natural areas like the San Francisco Bay National Wildlife Refuge. Depending on location, the path itself is composed of paved multi-use paths, compact gravel trails, sidewalks, bike lanes and designated routes on city streets.

The Bay Trail provides an attractive route for bicyclists and pedestrians, and supports a range of recreational opportunities. The extensive network provides access to: numerous public transportation facilities; residential neighborhoods; commercial and industrial areas; historic, natural and cultural landmarks; recreational areas such as beaches, marinas, fishing piers and boat launches; and over 130 parks and wildlife preserves totaling 57,000 acres of open space.

The San Francisco Bay Trail Plan was initiated in 1987 when Senate Bill 100 was passed into law, directing the Association of Bay Area Governments to develop a plan for the Bay Trail. The Bay Trail Project, a nonprofit organization established in 1990, and the citizen-based Trails for Richmond Action Committee (TRAC) remain vital in making the San Francisco Bay Trail a reality.
Community Initiatives for Pedestrian and Bicycle Improvements

**Safe Communities Project**
Motivated by a disproportionate number of pedestrian collisions in Richmond’s Triangle, West Contra Costa County (WCCC) initiated the “Safe Communities Project” that has been instrumental in using the State Wide Integrated Traffic Reporting System (SWITRS) to develop collision maps and identify the most dangerous intersections.

**Contra Costa Health Services Injury Prevention Project**
The Injury Prevention Project has made progress toward locating and prioritizing hotspots and improving pedestrian and bicycle safety through prevention. The Project produced key traffic safety profiles, identification of hotspot intersections and improvement recommendations for areas such as the North and East neighborhood, where prevalent speeding on local streets is a critical concern.

**Richmond Pedestrian Project**
In collaboration with Contra Costa Health Services, Richmond initiated the Pedestrian Project (PEDS) which seeks to reduce pedestrian injuries through enforcement, education and engineering strategies. PEDS also helps prioritize Richmond’s hotspots, coordinate with neighborhoods applying for grant funding for improvements and promoting pedestrian-focused safety messages.
Challenges for Pedestrians and Bicyclists
Many of Richmond’s areas face significant challenges for pedestrians and bicyclists. Richmond experiences a higher rate of pedestrian and bicycle injuries than other cities of comparable size. Historically, Richmond’s Triangle neighborhood in particular has been subject to high rates of accidents involving pedestrians. A disproportionate number of collisions involving bicyclists and pedestrians have occurred at the intersection of Harbour Way and Pennsylvania as compared to other intersections in the area.

In the North and East neighborhood, speeding on local streets remains a critical concern with the following intersections identified as dangerous hotspots for pedestrians: 23rd Street and Pine Avenue; 23rd Street and California Avenue; 23rd Street and Clinton Avenue; and 23rd Street and Maricopa Avenue. Especially problematic intersections for bicycle safety include: Lowell Avenue and San Pablo Avenue; 36th Street and Clinton Avenue; 26th Street and Downer Avenue; and Macdonald Avenue and San Pablo Avenue.

Sidewalks
Most of Richmond’s arterial and collector roadways include sidewalks. However, there are segments that are disconnected or deteriorating, and areas where walkways are too narrow. The El Sobrante area along San Pablo Dam Road in particular could benefit from sidewalk or hard-surface trail installation and upgrades. Some sidewalks need upgrades to comply with the Americans with Disabilities Act (ADA).

Multi-Use Trails
Richmond’s trails and greenways provide important bicycle and pedestrian connections between some neighborhoods, commercial centers, parks and Richmond shoreline.

The Richmond segment of the San Francisco Bay Trail supports both recreational and essential trips. As of 2011, approximately 30 miles of the trail within Richmond have been completed, with 11 additional miles planned. Segments of the Bay Trail are currently located on portions of the Richmond Parkway, Cutting Boulevard, Marina Way, Regatta Boulevard, and in southern Richmond near the Miller-Knox Regional Shoreline and Central Avenue. The Bay Trail links many of the City and regional parks in Richmond as well as the Richmond Greenway and the Wildcat Creek Regional Trail.

The Richmond Greenway is being developed in phases on an old railroad right-of-way that passes through core neighborhoods of the City. When completed, it will connect the Bay Trail at Richmond Parkway and Ohio Avenue to the Ohlone Greenway Trail along the BART tracks in El Cerrito.

The Wildcat Creek Trail will extend east from the Wildcat Creek Viewpoint through San Pablo, connecting to Wildcat Canyon Regional Park.

Public Transit
About 13% of Richmond households do not have access to a car and are entirely dependent on public transit for their travel needs. Most Richmond residents and businesses are well served by local and regional public transit including Bay Area Rapid Transit (BART), Amtrak, Alameda-Contra Costa Transit (AC Transit) and West Contra Costa Transit Authority (WCCTA). Richmond also has an extensive paratransit system with service provided by AC Transit, BART and the City of Richmond.
While more than 95% of Richmond residents who reside in the City’s Central District live within a quarter mile of a local public transit stop, the El Sobrante Valley located in the semi-rural eastern area of the City is not adequately served. Night and weekend bus service may not adequately serve the needs of residents, especially low-income households.

**Bus Transit**

AC Transit operates several local routes in Richmond. The buses typically operate with 30 to 60-minute headways and connect to key destinations within and near Richmond including the Richmond Parkway Transit Center at Richmond Parkway and Blume Drive, the Richmond BART Station, the El Cerrito Del Norte BART Station, Downtown Richmond, Marina Bay, Contra Costa College and Hilltop Mall. In addition to local routes, three AC Transit Transbay routes operate from Richmond to the San Francisco Bay Terminal in the morning peak hours and from the San Francisco Bay Terminal to Richmond in the afternoon peak hours.6

Other bus transit providers serving Richmond include Golden Gate Transit, which operates between the San Rafael Transit Center and Richmond, and WestCAT, which provides a commute express bus route from the Richmond Parkway Transit Center to the El Cerrito Del Norte BART Station. WestCAT also provides express bus service between the El Cerrito Del Norte BART Station and Hercules Transit Center with stops alternating between Richmond Parkway Transit Center and Hilltop Shopping Center. The recently completed Richmond Intermodal Transit Station, located near the Richmond BART station, provides links between BART, Amtrak, AC Transit and WestCAT.

**Paratransit Service**

The Richmond Paratransit Program provides low-cost transportation services to elderly persons and persons with disabilities. It serves residents from Richmond, North Richmond, Kensington and El Sobrante.

**Bay Area Rapid Transit**

Richmond’s Bay Area Rapid Transit (BART) station is the northwestern terminus of this regional rail system. BART also operates a servicing facility near the Downtown station.

**Amtrak**

Amtrak’s Capitol Corridor and San Joaquin trains stop at the intermodal Richmond Station. The westbound route connects with Berkeley, Emeryville, San Francisco and Oakland. Eastbound, the Capitol Corridor extends to Davis, Sacramento and Auburn in California, and Reno and Sparks via bus in Nevada. In each direction, up to 16 trains stop at the Richmond Amtrak Station on the Capitol Corridor route. In total, up to 40 passenger trains per weekday make stops at the Richmond Station.
Water Transportation
Richmond’s location on the San Francisco and San Pablo Bays provides a resource for recreation and public transportation. There are several marinas for recreational boats including Richmond Marina, Richmond Yacht Club located in the Richmond Inner Harbor and Point San Pablo Yacht Harbor located on San Pablo Bay.

Richmond is a candidate for a new East Bay ferry terminal. The San Francisco Bay Area Water Emergency Transportation Authority (WETA) included Richmond as a potential terminal location site in its 2005 Terminal Site Analysis. WETA prepared the Richmond Waterfront Transit-Oriented Development (TOD) Plan that presents a preferred alternative and a Development Concept Plan for the potential terminal. The recommended site for the ferry terminal is in Marina Bay Yacht Harbor at the existing G Dock.

Goods Movement
The Port and industrial areas of the City provide a significant source of employment and revenue to Richmond and serve a major role in the regional economy. An efficient, safe and reliable system for goods movement via trucks and railroads is an important part of Richmond’s circulation network.

Proposed land uses within the Waterfront TOD Plan area include: high-density mixed-use development close to the terminal; new roads in a grid pattern to reduce block lengths and provide for greater walkability; and a transitional area from the new development to existing office and industrial developments. Overall, the Waterfront TOD Plan aims to achieve a pedestrian, transit and waterfront-oriented neighborhood, good intermodal access to the ferry terminal, the continued coexistence of diverse uses on the Ford Peninsula in Marina Bay, the right amount of parking in strategic locations and a strong identity.

Truck Routes
There are 28 designated truck routes in the City of Richmond. Many of these truck routes are located south of Interstate 580 where they access port terminals on the Richmond Harbor. Truck routes also extend to northern Richmond near Hilltop Mall and on Interstate 580, Interstate 80 and the Richmond Parkway.

Railroads
Goods movement in Richmond is also accomplished by rail. Burlington Northern Santa Fe (BNSF), Union Pacific (UP) and Richmond Pacific (RP) operate the various tracks in the City. There are many locations in Richmond with at-grade railroad crossings of local streets. The RP line intersection...
with Marina Bay Parkway south of Interstate 580 has been studied for a possible grade separation. Several other locations in Richmond present train-vehicle conflict issues due to inherent difficulties with vehicle traffic flow, train movements and sensitive nearby land uses.

Burlington Northern Santa Fe operates an average of 20 trains per day with train lengths varying from 10 to 100 cars. On the tracks north of Garrard Boulevard, trains travel up to 55 miles per hour (mph); on tracks west and south of Garrard Boulevard, trains travel 10 mph.

Union Pacific owns tracks that passenger and freight trains use on a daily basis. There are about 24 passenger trains and 43 freight trains using these tracks on a typical weekday. Amtrak passenger trains travel up to 70 mph and the UP freight trains travel up to 55 mph.

Richmond Pacific operates on tracks south of Interstate 580, between South 11th Street and Regatta Boulevard in the Richmond Harbor area, on tracks adjacent to I-580 south to Berkeley, and north to Chesley Avenue along the Union Pacific right-of-way, and a section of track between Chesley Avenue and the Chevron yard. Richmond Pacific runs two trains with 10 to 20 cars on the northern tracks, and as many as 32 trains with two to 20 cars per day on the southern tracks.

**Port**

Three City-owned seaport terminals are located on the Richmond inner harbor. Port Terminal 1 is located on the west side of harbor Channel. On the east side of harbor Channel, Terminal 2 is used by California Oils for the import of edible oils and Terminal 3 was used for general cargo and the occasional import of containers. Terminal 4 is north of interstate 580 on the San Pablo Peninsula, and is not operational. There are approximately 20 private terminals or businesses operating within the Port of Richmond or on state-owned public trust property outside the Port. The Port handles approximately 19 million tons of freight annually consistent with the current BCDC Seaport Plan. The majority of the cargo is oil and other petroleum products and bulk cargos including coke, aggregate and other building material. The City Port also receives imported cars and delivers them to dealers throughout the western United States. Most of the terminals are located south of interstate 580 where there is interaction between the port terminals, freight trains and truck traffic.

**Vehicular Travel**

Routes of Regional Significance such as Interstate 80, Interstate 580 and the Richmond Parkway, provide regional connections while local streets provide access to residential, commercial and industrial areas of the City. Routes of Regional Significance are defined by WCCTAC as roadways that connect two or more regions of Contra Costa County, cross Contra Costa County boundaries, carry a significant amount of traffic, or provide access to a regional freeway or transit facility. The following are the designated Routes of Regional Significance in Richmond:

- Interstates 80 and 580;
- Richmond Parkway;
- San Pablo Avenue;
- San Pablo Dam Road;
- 23rd Street;
- Carlson Boulevard;
- Central Avenue;
- Cutting Boulevard;
- El Portal Drive; and
- Macdonald Avenue;

Vehicular analyses based on traffic volumes and service levels indicate where particular streets, street segments and intersections are operating beyond their intended vehicular capacity. These findings point to specific areas where mitigation measures are needed and highlight where to focus improvement efforts. Vehicular-based assessments of 38 key roadway segments throughout the City indicate...
that most roadways are operating well under their maximum capacities. However, several segments of Interstate 80, and 22nd and 23rd streets in the Downtown are currently operating beyond their design capacity.

Following is a review of intersections or roadway segments that could benefit from improvement. While some initial mitigation measures are proposed in relation to each area, more detailed study will be needed to determine how best to resolve specific issues. Critical circulation improvements are included in Richmond’s Capital Improvement Program. Overall, the City will seek alternative strategies to address traffic congestion. Streets will be evaluated based on impacts to their immediate surroundings.

**Meeker Avenue/Marina Bay Parkway**
At the intersection of Meeker Avenue and Marina Bay Parkway drivers tend to speed, making the pedestrian environment less than ideal. Many pedestrians use the intersection to cross between workplaces and the shopping center. Improvements may include traffic calming measures.

**22nd and 23rd Streets**
The one-way sections of 22nd and 23rd Streets between Roosevelt and Macdonald were intended to facilitate traffic flow, but have resulted in traffic-dominated streets that are not pedestrian friendly. Traffic speeds are higher than desired. Improvements may include converting these streets back to two-way operation, with associated traffic calming elements to improve safety for pedestrians and bicyclists.

**37th Street and Roosevelt Avenue**
On the north segment of 37th Street and on an east-west portion of Roosevelt Avenue, traffic speeds and cut-through traffic have impacted the residential quality of life and raised safety concerns. Traffic calming improvements may be needed such as four-way-stop intersections, traffic circles, narrowed travel lanes, curb extensions at intersections and other measures.

**Castro Ranch Road**
Castro Ranch Road has experienced slides and temporary closures in the past due to the varied topography, drainage and the underground San Pablo Creek crossing. Local residents have expressed concern about the future stability and maintenance of this road, particularly with the potential for traffic growth from new development.

**Barrett Avenue**
Barrett Avenue has traditionally been a residential street intended for slow-moving local traffic. However, because it connects 23rd Street to San Pablo Avenue and Interstate 80, it has become a busy thoroughfare. As this Plan is implemented, the City will impose conditions of development approval and pursue capital improvements to reduce the volume and speed of traffic and to improve pedestrian safety and amenities.

**Central Avenue**
Central Avenue at Interstate 80 and Interstate 580 experiences traffic congestion particularly during the commute peak hours. Significant improvements in this area are necessary and are the subject of ongoing efforts by the the Contra Costa Transportation Authority (CCTA) and the cities of Richmond and El Cerrito.

**San Pablo Avenue/23rd Street**
The intersection of San Pablo Avenue and 23rd Street serves high traffic volumes with a nonstandard alignment and close proximity to adjacent intersections. Commute hour congestion is severe. Re-alignment of intersections and traffic control measures such as turning restrictions may alleviate congestion.

**San Pablo Avenue/Richmond Parkway**
The intersection of San Pablo Avenue and Richmond Parkway is congested during commute hours. This intersection was originally envisioned to be a grade-separated interchange, but existing development patterns make this option unlikely. Intersection improvements are necessary to relieve congestion.

**San Pablo Avenue/Barrett and Interstate 80**
San Pablo Avenue at Barrett and Interstate 80 is a congested area due to the closely spaced intersections and the resulting minimal capacity for vehicles to queue.

**San Pablo Dam Road**
San Pablo Dam Road experiences heavy congestion during the commute peak hours. Factors affecting congestion include the high traffic generated by regional, local and school-related trips, and the roadway narrowing down from four to two lanes east of Castro Ranch Road. San Pablo Dam Road at
Interstate 80 and Amador Street are closely spaced intersections that experience significant congestion during the commute peak hours.

**Marina Bay Parkway Rail Crossing**
Train crossings at Marina Bay Parkway cause traffic delays and concerns about residents being temporarily cut off from regional routes and the rest of the City. Traffic improvements in the area could include both grade separation at this intersection and a new route to Interstate 80 via an extension of Regatta Boulevard through the University of California at Berkeley and private property to the east.

**Marina Way South Rail Crossing**
Train crossings at Marina Way South create a barrier between the proposed waterfront transit-oriented development area from the regional routes and the rest of the City. The possible new route to Interstate 80 via an extension of Regatta Boulevard could improve access to the area.

**Harbour Way/Wright Avenue Rail Crossing**
At Harbour Way and Wright Avenue, the BNSF rail line crosses at grade through the unsignalized intersection. There are no warning lights or gates. There is a need for improvements such as coordinated traffic signals and gates at this intersection.

**Carlson and Cutting Boulevard Rail Crossing**
The Union Pacific Rail Road (UPRR) tracks cross Carlson Boulevard at Cutting Boulevard, creating one of the most dangerous intersections in the State, according to the California Public Utilities Commission. The intersection is located near schools and is regularly used by pedestrians. A grade separation at this location may be the most effective long-term solution to safety and noise issues. A more cost-effective approach using a traffic circle has been recommended as part of Richmond’s Pedestrian Master Plan.

**Garrard and Cutting Boulevard Rail Crossing**
The BNSF tracks cross both Garrard Boulevard and Cutting Boulevard, and periodically longer trains cause extensive backups on these important arterials. Circulation improvements are necessary to address the conflicts between motor vehicle and rail traffic.

**Giant Road Access**
Only Giant Road provides access to much of the area west of the UPRR tracks in North Richmond. Improvements such as a grade separated rail crossing may be necessary to improve access to new uses in the area.

**Goodrick Avenue**
Currently, Goodrick Avenue is a relatively unimproved rural road without sidewalks, curbs, and gutters. Illustrative improvements, shown in Figure 1, will support future land uses and improve access to Dotson Family Marsh and the Point Pinole Regional Shoreline. These will be refined for future development. A San Francisco Bay Trail link is planned for the east side of the avenue.*

*Resolution 102-18, Adopted December 18, 2018
A Place-Based Circulation Approach

Underlying Richmond’s new approach to circulation is first and foremost a vision to create places for people. The City will strive to create “complete streets” for people who are walking, enjoying public parks and plazas, riding bikes, taking public transit as well as those who are driving cars. Proposed enhancements to the street system must consider all types of travel and be based on a particular street’s intended function and character.

Place-Based Circulation Classification System

The place-based circulation classification system in Table 4.2 serves as a tool to guide decisions about improvements that will best meet the community’s vision of the public right-of-way. Rather than implementing the standard vehicular capacity-based hierarchy for streets (freeways, arterials, collectors, local roadways), the place-based circulation classification system is tailored to surrounding land use, street function and desired character.

Integral to this classification system is the identification of priority, allowable and prohibited types of travel for each particular accessway type. Where a certain travel type is designated as a priority, streets must accommodate this type. Where a travel type is designated as allowable, that type should be considered if it can be accommodated. Incorporating an allowable travel type is not required, but should be evaluated based on the character and function of a particular street. Where a travel type is designated as prohibited, it is not allowed on that particular street.

In addition to specifying a range of priority travel modes, Richmond’s classification system also describes accessways in relation to their predominant land use and desired character.

Where pedestrians and bicycles are designated as priority travel types, streets might warrant safe intersection crossings, traffic calming, sidewalks and bike lanes. Where public transit is a priority travel type, both physical and programmatic responses may be appropriate such as improving transit connections, expanding transit service, providing transit hubs, addressing affordability and transit incentives. The place-based circulation classification system will result in a more balanced and vibrant street environment.

Descriptions and schematic diagrams of accessway types which make up Richmond’s place-based circulation classification system are presented in the following sections.

Table 4.2: Place-Based Circulation Classification System

<table>
<thead>
<tr>
<th>Accessway Type</th>
<th>Travel Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public Transit</td>
</tr>
<tr>
<td>Multi-Use Trail</td>
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<tr>
<td>Residential Street</td>
<td>○</td>
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<tr>
<td>Neighborhood Street</td>
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<tr>
<td>Community Activity Street</td>
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</tr>
<tr>
<td>Community Connector Street</td>
<td>●</td>
</tr>
<tr>
<td>Regional Connector Street</td>
<td>○</td>
</tr>
<tr>
<td>Freeways</td>
<td>●</td>
</tr>
</tbody>
</table>

Legend: ● Priority Mode ○ Allowable Mode X Prohibited Mode

Note: Public transit does not include heavy rail. Trucks include vehicles weighing 9,000 lbs. or more and with dual tires on the rear axle.
Multi-Use Trail
Multi-use trails refer to bicycle and pedestrian trails, paths and routes that are separated from other modes of travel. Multi-use trails such as the San Francisco Bay Trail are located primarily in open space areas and along the shoreline. Multi-use trails promote recreation, interpretation and health, while providing citywide connections to employment centers, community amenities, parks, schools, transit stops and public facilities.

Residential Street
Figure 4.1 shows the cross-section of a typical residential street. These streets are located within neighborhoods and provide a safe environment for families and children. This street type supports pedestrian activity while accommodating slow moving traffic. The impact of automobiles is minimized through traffic calming techniques such as traffic circles, landscaping and signage.
Figure 4.2: Neighborhood Street

*Neighborhood Street*

Figure 4.2 shows the cross-section of a typical neighborhood street. These streets connect different parts of a neighborhood and prioritize walking and bicycling. These streets tend to have slightly more traffic and wider rights-of-way than residential streets, but have less auto-traffic than major roadways. They are typically lined with trees, bike lanes and sidewalks. Neighborhood streets serve residences, mixed-uses, schools, parks, public facilities and other community amenities.

**Neighborhood Street Examples**

- McBryde Avenue
- Marina Way
- Nevin Avenue
Community Activity Street

Figure 4.3 shows the cross-section of a typical community activity street. Community activity streets link various neighborhoods together, link neighborhoods to other parts of the City, have a greater commercial emphasis as compared to neighborhood streets and accommodate all types of travel including public transit, bicycling and walking. They serve as destinations and are the City’s “main streets.” A higher-intensity of development is appropriate along these corridors including housing and mixed-use.

Common street characteristics may include wide, tree-lined sidewalks, plazas supporting a high level of pedestrian activity, wider rights-of-way and medians and more travel lanes to enhance traffic flows for autos, delivery trucks and transit vehicles. In addition, parking lanes, wide sidewalks, large street trees and traffic signals may buffer pedestrians and bicyclists from automobiles, trucks and transit vehicles. Traffic typically moves slowly due to high volumes.

Community Activity Street Examples

- Macdonald Avenue
- Marina Way South
- 23rd Street
- Barrett Avenue
Figure 4.4: Community Connector Street

Community Connector Street
Figure 4.4 shows the cross-section of a typical community connector street. Community connector streets link neighborhoods to other parts of the City and prioritize public transit. These streets balance of all types of travel including trucks in some cases. Common characteristics include wider rights-of-way, medians and more travel lanes to enhance traffic flows.

Parking lanes, wide sidewalks, large street trees and traffic signals may buffer pedestrians and bicyclists from auto and transit traffic. Higher-intensity development is appropriate along these corridors including higher-density housing and mixed-use development.

Community Connector Street Examples
- Harbour Way
- San Pablo Avenue
Regional Connector Street

Figure 4.5 shows the typical cross-section of a regional connector street. These streets provide access to freeways and accommodate trucks in addition to pedestrians, bicycles, autos and public transit. Development along these streets includes industrial or office uses, which are typically close to freeways and require convenient truck access.

Freeways

Automobiles, motorcycles, buses and trucks are the only transportation modes that are permitted to use freeways, where the primary intent is an efficient movement of vehicles. Interstate 580 and Interstate 80 are freeways that serve Richmond.
Key Findings and Recommendations

Key historical events have shaped the transportation infrastructure in Richmond. At the turn of the 20th century, arrival of the transcontinental railroad and ferry service between Richmond and San Francisco catalyzed industrial and urban development and established the area as a significant port and trading post. As the City grew, neighborhood streets were laid out in a grid pattern that provided convenient connections between neighborhoods and local services. Most residents relied on walking or streetcars to travel throughout the City or to neighboring areas. The affordability and popularity of the automobile in the mid-20th century altered the urban landscape and character of city streets. As travel times decreased, acceptable travel distances to destinations typically increased, giving rise to a diffused development pattern across the Bay Area including the outlying areas of Richmond such as the El Sobrante Valley and Hilltop Mall.

Streetcars were eventually abandoned and streets were widened to make room for automobiles. Major freeways and bridges completed during the second half of the 1900s accommodated greater volumes of traffic and created significant impacts by: drawing vehicular traffic away from neighborhood streets; increasing the need for wide roadways throughout the City; further decreasing reliance on non-vehicular modes of travel; and in some instances, creating physical barriers between neighborhoods.

Richmond’s future plans will improve the experience of the street as a complete environment for people who are walking, enjoying public areas, riding bicycles and taking public transit. Priorities include enhancing safe connections between different parts of the City, elevating environmentally-friendly modes of travel and expanding transportation choices so that walking, bicycling, public transit and off-street modes of travel become more attractive options. The City already enjoys many significant transportation-related assets and provides exceptional regional connectivity with: two major intermodal transit centers; the Bay Area’s only intermodal station that connects BART to the Capitol Corridor train; an extensive bus service connecting people to key destinations; two major freeways; two major regional rail services; and a proposed ferry terminal in Marina Bay.

The City is also one of only four Bay Area communities that operate a commercial seaport. Truck and railroad operations serve Port uses and play an important role in economic development. The following key findings and recommendations will help guide the City’s efforts to develop a system that meets community needs and maintains Richmond’s competitive advantage.

Finding 1: Richmond has an extensive circulation system that provides local and regional connectivity, but investment is needed to enhance mobility and access for all residents, workers and visitors.

A safe, efficient, accessible and reliable circulation system is essential to a vibrant economy and thriving community. The circulation system supports the land use and economic development objectives of the General Plan by connecting businesses to markets, and neighborhoods to job centers and community services. Although Richmond has an intricate system of local and regional buses, BART and commuter rail services, the majority of residents still drive alone to work. Improving transit connectivity and enhancing accessibility may increase transit ridership, as well as bicycling and walking as regular travel modes. Moreover, expanded travel options can improve quality of life for Richmond’s many residents who do not have access to automobiles, or who live and work in areas of the City that are underserved by the public transit network. Means of improving and enhancing the circulation system include:

- Balancing travel modes by supporting a variety of public transit, pedestrian and bicycling options, as well as efficient goods movement and automobile circulation;
- Improving internal linkages and accessibility to enhance connections between different parts of the City;
- Enhancing regional connectivity to link Richmond’s residents, businesses and destinations to the entire region and beyond; and
- Promoting a place-based approach to circulation planning to guide improvements that enhance community character, active use of streets and improved quality of life.
Finding 2: Although a network of existing streets, sidewalks and trails provide linkages and connectivity between neighborhoods, improvements are needed to enhance safety and comfort for pedestrians and bicyclists.

High-quality pedestrian environments such as the historic Point Richmond neighborhood can encourage walking and bicycling as an alternative to driving. However, many streets in the City were originally designed or reconfigured in order to accommodate high volumes of traffic with wide, multi-lane configurations that discourage non-vehicular modes of travel. Richmond seeks to expand transportation choices so that walking, bicycling, public transit and off-street modes of travel become more attractive options. Strategies for improving safety and connectivity for pedestrian and bicyclists include:

- Addressing streets as public spaces to increase active use of streets, promote community character, reduce traffic conflicts and improve the public realm;
- Promoting mixed-use streets that balance transit, walking and bicycling opportunities to provide high-quality street environments;
- Providing safe access and connectivity within neighborhoods and to destinations throughout the City for pedestrians and bicyclists; and
- Coordinating land use and transportation planning to support public transit, walking and bicycling to reduce automobile dependence.

Finding 3: The City provides a wide range of circulation options to serve diverse needs, but ongoing maintenance, efficient use and safety improvements must be addressed as new development puts additional pressure on existing infrastructure.

Ongoing street maintenance and safety improvements for pedestrians, bicyclists, transit and automobiles will create a safe, accessible and efficient circulation system that provides a range of transportation options. In order to enhance mobility and connectivity for all users, the City will:

- Enhance safety for all transportation modes through high-quality transportation facilities;
- Provide concurrent infrastructure development to accommodate new development and redevelopment that significantly impacts non-auto travel in the City; and
- Upgrade infrastructure to address safety, efficiency and accessibility for all residents, workers and visitors.

Finding 4: Richmond relies on efficient and effective goods movement to support economic development opportunities in industrial areas, but noise, air quality and traffic safety remain concerns.

Maintaining efficient goods movement throughout Richmond is essential to the City’s economic vitality. However, impacts due to diesel emissions, especially in relation to quality of life in residential areas and sensitive uses such as hospitals and schools have prompted residents to raise concerns about long-term impacts. Goods movement can be improved by:

- Promoting a coordinated planning approach that emphasizes the efficient movement of goods without compromising safety; and
- Supporting the introduction of new technology that will reduce emissions from port and rail operations.

Finding 5: While Richmond enjoys an extensive public transit network, the City can further encourage sustainable circulation options that reduce impacts on the environment and build healthy communities.

Sustainable and efficient use of circulation infrastructure and resources will allow the City to serve the needs of residents, businesses and visitors while minimizing the impacts on sensitive population groups such as seniors and children and the environment as a whole. A sustainable circulation system complements the land use and urban design concepts outlined in this General Plan. Strategies to improve the sustainability of the circulation system include:

- Supporting transportation strategies that reduce resident and business dependence on automobiles;
- Promoting the use of renewable energy and clean technology for transportation and goods movement in the City; and
- Promoting the development of green street design standards for new and existing streets.
4 Circulation

Goals

GOAL CR1  An Expanded Multimodal Circulation System
Make conditions safer and more attractive for all modes of transportation including travel by foot and bicycle, public transit and automobiles. Evaluate streets and potential enhancements based on surrounding land use, street function and desired character and by relying on the place-based approach to circulation planning articulated in this General Plan. Take potential improvement measures ranging from physical design treatment of the street environment to social and programmatic responses appropriate to the particular street context.

GOAL CR2  Walkable Neighborhoods and Complete Streets
Activate the public right-of-way and improve the experience of moving people between key destinations at the pedestrian level. In order to make walking and bicycling a more attractive option, enhance connectivity between neighborhoods, schools, the workplace, and daily goods and services so that reaching key destinations is safer and more convenient. Contribute to walkability and livability by promoting mixed-use and complete streets, high-quality pedestrian environments, context-based street design and efficient public transit.

GOAL CR3  A Safe and Well-Maintained Circulation System
In order to create a safe and efficient circulation system, emphasize on-going street maintenance and safety improvements that consider all modes of transportation including walking, bicycling and public transit. Require new facilities and infrastructure as development occurs in order meet the needs of all users while enhancing mobility and connectivity.

GOAL CR4  Efficient Movement of Goods
Support the efficient and safe movement and delivery of goods between businesses, the Port and the railroad while avoiding adverse impacts on neighborhoods and environmentally sensitive areas.

GOAL CR5  Sustainable and Green Practices
In order to create sustainable and clean circulation options, encourage the use of low-impact alternative fuels and new technologies and implement transportation demand management programs. Encourage measures to treat and retain stormwater in the design of pedestrian and parking amenities.
Policies and Implementing Actions

A range of policies and implementing actions are outlined below in relation to each of the goals. These policies mandate, encourage or allow certain actions to be pursued throughout the duration of the General Plan. Together they serve as strategic directions for City staff and partners, highlighting where time and resources should be focused.

Each policy may either be correlated with a number of actions, or simply a single key implementing action. Conversely, some actions may support a range of policies. The policies and implementing actions are organized in two parts. First, all goal-related policies are described and each policy description is followed by a list of its associated implementing actions. Then, implementing actions are described in greater detail in the following section.
**GOAL CR1**

**An Expanded Multimodal Circulation System**

**Policy CR1.1 Balanced Modes of Travel and Equitable Access**
Encourage multiple circulation options in the City and work with transit operators to ensure equitable access for all members of the community. Create streets and corridors that support a variety of travel modes including transit, pedestrians, bicycles and goods movement as well as automobiles. Provide affordable circulation options which meet the needs of low-income populations, seniors, youth and persons with disabilities to ensure equitable access.

**Policy CR1.2 An Interconnected Street System**
Promote an interconnected system of streets that adequately serves current and future travel needs. By promoting an interconnected system for streets along with pedestrian, bicycle and transit facilities, the City can support streets that are compatible with surrounding land uses, street function and community character.

**Policy CR1.3 Local and Regional Transportation Linkages**
Enhance circulation linkages within the City and region. The City will work with regional transportation agencies such as AC Transit, BART, West Contra Costa Transit Agency, and Amtrak to provide or improve connections to Richmond’s key transportation hubs such as the proposed ferry terminal in Marina Bay, the Downtown Intermodal Transit Station, Hilltop Mall, the shoreline and commercial and mixed-use streets. Collaborate with regional, state and federal transportation agencies and neighboring jurisdictions to support a high level of service for all users including pedestrians, bicyclists, and automobile drivers.
GOAL CR1
An Expanded Multimodal Circulation System

Policy CR1.4  Expanded and Affordable Public Transit
Coordinate with regional transportation agencies and support enhanced and expanded public transit to improve mobility options for residents and visitors. Public transit provides an environmentally-friendly, cost-effective and equitable mode of travel for residents and visitors. Encouraging transit-supportive development patterns can further maximize the efficiency of these systems and help reduce air pollution and greenhouse gas emissions within Richmond.

Public transit service should connect major destinations in Richmond including education institutions, community facilities, regional open space areas and major commercial corridors to serve a greater number of riders and reduce commuter vehicle miles. All housing units and employment centers in Richmond should have access to a local and regional public transit stop. Ensure that all transit stations and routes to and from these stations are safe. As many residents and visitors rely on regional passenger rail and air travel, support efforts to create efficient public transit connections to train stations and regional airports.

Support efforts to expand service at night and on weekends and to make transit affordable and accessible to people of all abilities, seniors, youth and low-income households.

See also: EC2.3; HW4.1

Policy CR1.5  Safe and Convenient Walking and Bicycling
Promote walking and bicycling as a safe and convenient mode of transportation. Improve pedestrian and bicycle amenities to serve the recreation and travel needs of residents and visitors in all parts of Richmond. Where feasible, the City will: connect major destinations such as parks, open spaces, civic facilities, employment centers, retail and recreation areas with pedestrian and bicycle infrastructure; promote shared roadways in residential streets; require new development and redevelopment projects to provide pedestrian and bicycle amenities, streetscape improvements and linkages to planned and completed City and regional multi-use trails; and develop safe routes to schools and out-of-school programs that allow access by bicycle and pedestrian paths or reliable and safe transit.

Explore innovative solutions such as bicycle-sharing programs and encourage businesses, schools and residential developments to provide secure bicycle parking to ensure that these ecologically-friendly, low-impact transportation modes are available to all community members, thereby reducing emissions from vehicles within the City, improving environmental quality and enhancing mobility and connectivity.

See also: EC2.4; HW4.3
GOAL CR1
An Expanded Multimodal Circulation System

Policy CR1.6  Comprehensive Network of Multi-Use Trails
Develop a comprehensive network of multi-use trails including to enhance bicycle and pedestrian connectivity throughout the City and the region. Completion of the Bay Trail will enhance access to the Richmond shoreline and adjacent open space. The proposed San Francisco Bay Water Trail will also provide enhanced access and recreational opportunities to the Bay. Connecting the Richmond Greenway with the Ohlone Greenway and the Bay Trail, and linking Richmond with Marin County with a bicycle trail across the Richmond-San Rafael Bridge will help create a comprehensive network of multi-use trails.

Policy CR1.7  Regional Ferry Service
Support and plan for the proposed ferry service to Richmond. Public transit, bicycle and pedestrian linkages between the proposed ferry terminal and other major destinations such as the Downtown, BART stations, key commercial areas and civic uses will support a successful regional ferry service. Also, regional ferry service can be supported by providing higher-density, mixed-use development around the proposed ferry terminal.

Policy CR1.8  Place-Based Circulation Approach
Promote the place-based planning approach and classification system. This integrated approach linking functional accessway requirements with surrounding land uses and urban design promotes community character, active use of streets and improved quality of life.
GOAL CR1
An Expanded Multimodal Circulation System

Policy CR1.9  
*Place-Based Circulation Classification System and Multi-Modal Level of Service Standards*
Classify all streets in the City to conform to the Place-Based Circulation Classification System discussed in the Circulation Element of the General Plan and adopt multi-modal level of service (MMLOS) standards that are consistent with each street type's intended function and character.

Policy CR1.10  
*Vehicular Level of Service Standards for West County Routes of Regional Significance*
Maintain vehicular level of service (LOS) standards for signalized intersections consistent with the Contra Costa Transportation Authority’s (CCTA) West County Action Plan for Routes of Regional Significance. Require a traffic impact study for projects that would generate more than 100 net new peak-hour vehicular trips. Require traffic impact studies to be prepared by professional transportation consultants selected and hired by the City and require the studies to be fully paid for by the project applicant. Traffic impact studies shall be prepared according to CCTA’s travel demand model and technical procedures. Approve projects only if they are found to be consistent with the CCTA’s West County Action Plan for Routes of Regional Significance. Projects found to be inconsistent with the CCTA’s West County Action Plan for Routes of Regional Significance may be approved if findings of special circumstances, including appropriate mitigation measures, are adopted by the City.
4 Circulation

GOAL CR1
An Expanded Multimodal Circulation System

Action CR1.A  Regional Circulation Improvements
Continue to participate in regional circulation planning efforts to identify and advocate for improvements that enhance regional connectivity and mobility in Richmond.

Action CR1.B  Public Transit and Paratransit Service Improvements
Continue to collaborate with AC transit, BART, West Contra Costa Transit Agency, Amtrak and major employers in Richmond that provide shuttle service to explore the potential for expanding transit in the evenings and late nights, and for people with special needs. Also explore the potential to enhance Richmond’s paratransit service. Collaborate with major employers to provide employer-based “open-door” shuttles to BART, the planned ferry terminal and other transit hubs. Collaborate with regional and Contra Costa County transportation agencies to restore service levels and to maintain and enhance service within the City and region. Prioritize strategies and improvements that address affordability, access and safety. Also prioritize transit and street improvements that increase mobility for low-income, youth, seniors, disabled, and other vulnerable residents to ensure equitable access. Expand outreach and information programs to promote transit use.

See also: EC2.C; HW4.C

Action CR1.C  Bicycle and Pedestrian Plans
Develop and implement citywide bicycle and pedestrian plans to make Richmond a more pedestrian and bicycle-friendly City. Identify gaps in the network, major travel routes and priority safety improvements. Designate a network of multi-use trails and off-street paths. Include connections to open space amenities such as Point Isabel, San Francisco Bay Trail, Point San Pablo, Point Pinole and the Richmond Greenway.

Update design guidelines and standards for bicycle and pedestrian facilities and amenities that meet local, state and federal standards. Include a uniform citywide signage plan and comply with all Americans with Disabilities Act (ADA) requirements.

Explore the potential to designate pedestrian priority areas or districts. Include strong connections to the downtown, recreation destinations, commercial and mixed-use streets, transit stations and schools. Address pedestrian and bicycle connections in parking lots.

Collaborate with Contra Costa County and other jurisdictions to ensure links to the regional trail network including the San Francisco Bay Trail and coordination with the County Bicycle and Pedestrian Plan. Coordinate efforts with ongoing bicycle and pedestrian community initiatives.

See also: HW4.D; EC2.E
GOAL CR1
An Expanded Multimodal Circulation System

Action CR1.D  Bicycle, Pedestrian, and Trail Standards
Develop standards for bicycle, pedestrian, and trail improvements and amenities in new development and redevelopment projects. Include requirements for adequate, safe and accessible bicycle parking, drinking fountains, public restrooms, benches, landscaping and lighting. Require new development and redevelopment projects to be pedestrian and bicycle-friendly, and to provide adequate connections to the existing and proposed bicycle and pedestrian network.

Require all new commercial, industrial and residential development to provide access for construction and operation of a trail where a local or regional trail is designated or planned. Include provisions that require owners of property along the shoreline to provide maximum feasible public access to the shoreline and to complete the Bay Trail as part of any project approval process.

See also: HW4.E

Action CR1.E  Trails and Greenway Program
Expand multi-use trails and greenways in the City. Provide connector trails and linkages to improve access from neighborhoods in Central Richmond to the regional open space in the hills and along the shoreline. Address barriers such as freeways, the Richmond Parkway and railroad tracks that limit shoreline access. Provide interpretive signs, maps, brochures and signage along the trails to enhance the experience of users and to provide information on the City's cultural and historical assets. Create a Class I multi-use trail loop north of Meeker Tidal Creek and Stege Marsh as a transportation and scenic route. Also provide trailhead staging areas at the south end of 32nd and 46th streets with bridges across Meeker Tidal Creek and the unnamed creek east of South 32nd Street.

Action CR1.F  Community-Based Self-evaluation and Transition Plan
Develop a community-based self-evaluation and transition plan to work toward access for all and Americans with Disabilities Act (ADA) compliance. With involvement from the community and specifically people with disabilities, the plan should assess the City’s ability to serve the needs of all Richmond residents and visitors. Specifically, the plan should assess policies, programs, services and facilities that are available to the public and provide recommendations for adapting service delivery methods and making physical improvements to ensure access for all. The plan should also include a timeline, priorities, implementation and financing strategies.

See also: PR2.B; HW4.I; CF1.J
GOAL CR1
An Expanded Multimodal Circulation System

Action CR1.G  Capital Improvement Program
Coordinate development with the Capital Improvement Program (CIP) to ensure completion of high-priority facility and infrastructure projects. Ensure that CIP projects are prioritized in economically depressed neighborhoods with the highest need.

See also: PR1.I; GM2.A; CF1.B

Action CR1.H  Street Capacity and Infrastructure Improvements
Maintain adequate street capacity and reduce congestion for all modes of transportation on the street and freeway system. Address congestion along corridors by enhancing the public transportation system, promoting mixed-use development patterns to reduce vehicle miles traveled and by implementing transportation demand management strategies to increase mobility options.

See also: CF1.I

Action CR1.I  Streetcar Service Feasibility Study
Explore the feasibility of providing a municipally owned streetcar electric bus or other shuttle service that connects the proposed ferry terminal with the Downtown and other key destinations in the City. Include provisions for a rubber-tire shuttle service as an alternative to a rail-based streetcar system.

Action CR1.J  Richmond Shuttle Service Feasibility Study
Explore the potential for a City-operated shuttle service to complement transit and paratransit services in Richmond. The shuttle service could link key destinations throughout the City including schools, community facilities, parks, major employment centers, commercial centers, health facilities, transit centers and neighborhoods. In addition, the service should provide convenient weekend access between neighborhoods and cultural, recreational and commercial destinations such as regional open space, national park sites, museums, cultural events and the Downtown. Based on feasibility study outcomes, develop follow-up steps such as a plan for service delivery and funding.

See also: PR5.F
**GOAL CR1**
An Expanded Multimodal Circulation System

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**Action CR1.K**  
*Station Area Plans*

Develop station area plans for major transit stations including the BART Station, proposed ferry terminal and Hilltop Mall. Revise and update plans already underway to encourage higher-density development within a half-mile of stations; improve pedestrian, bicycle and transit connectivity; and address parking, safety and congestion.

*See also: LU1.F*

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**Action CR1.L**  
*Parking Requirements and Parking Strategies Toolbox*

Revise parking requirements to support mixed-use urban environments and transit-oriented development along major commercial corridors, the Downtown and major transit stations such as BART and the proposed ferry terminal. Develop a parking strategies toolbox that includes parking supply strategies to increase parking availability, parking management strategies for more efficient use of parking and parking demand strategies to reduce the demand of parking. Also utilize the Metropolitan Transportation Commission’s “Reforming Parking Policies to Support Smart Growth” Toolbox/Handbook in this effort.

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**Action CR1.M**  
*Transit Needs Assessment*

Work with regional transit agencies to develop a Transit Needs Assessment that inventories current transit serving Richmond, analyzes transit needs of current and expected future Richmond residents and employees, identifies needs not met, and develops feasible and practical strategies for meeting those needs through both improved and new services within an integrated transit system.
GOAL CR2
Walkable Neighborhoods and Complete Streets

Policy CR2.1  Neighborhood Connectivity
Improve access and connectivity within neighborhoods and to major destinations in the City. Improved connectivity will enhance linkages to local and regional amenities such as neighborhood parks, schools, libraries, community centers, retail, public transit, bicycle paths, historic resources, the shoreline, open space and medical facilities.

Policy CR2.2  Complete Streets
Promote mixed-use urban streets that balance public transit, walking and bicycling with other modes of travel. Support pedestrian and bicycle connectivity by restoring and reinforcing Richmond’s grid-based network of streets with landscaping and amenities for transit, bicycles, pedestrians, and people with disabilities. Establish a process for modifying streets to support various modes of travel.

See also: HW4.5; LU6.2

Policy CR2.3  Integrated Bicycle and Pedestrian System
Plan, construct and maintain a safe, comprehensive and integrated bicycle and pedestrian system. Walking and bicycling to work, to schools and for recreation can be encouraged by providing amenities and facilities for pedestrians and bicycles, enhancing pedestrian and bicycle connectivity within neighborhoods, promoting multimodal trails and pathways accessible to all and addressing major barriers in the community such as freeways, railroads and steep terrain. Pedestrian improvements at parks, community centers, open space areas, schools, transit stops and commercial nodes will further enhance the bicycle and pedestrian system.
GOAL CR2
Walkable Neighborhoods and Complete Streets

Policy CR2.4 New School Siting
Work closely with the West Contra Costa County School District and other educational providers on location of public school facilities in order to:

- Locate public schools next to neighborhood or district park facilities and encourage the joint development of those facilities;
- Locate schools so that the number of students who can walk to school safely is maximized;
- Locate elementary schools near the center of their attendance areas;
- Locate middle school, junior high, and high school facilities centrally within their service areas and ensure that a socioeconomic and ethnic cross-section of the population is maintained in each school to the maximum extent feasible;
- Develop permanent school facilities having a student capacity scaled to accommodate the long range student load of their attendance districts;
- Discourage the use of portable classrooms; and
- Develop school sites of sufficient size to accommodate all school and recreational facilities without interference with adjoining residential uses.

See also: EH1.5
4 Circulation

GOAL CR2
Walkable Neighborhoods and Complete Streets

**Action CR2.A**  
*Community Access and Mobility*
Develop access and mobility criteria for capital improvement projects and new development to enhance physical access to community facilities, schools, parks, shoreline open spaces, historical destinations, commercial and employment centers and transit hubs. The criteria should address access by walking, bicycling and public transit as well as vehicular access.

The community access and mobility criteria should:

- Ensure safe connections to large and small open spaces, community facilities such as schools, community centers, recreational facilities, cultural and enrichment centers, historical destinations, transit hubs and commercial and employment centers;

- Address travel routes, infrastructure improvement needs and barriers such as roads, railroad lines, freeways, fences and natural features; and

- Provide bicycle and pedestrian-friendly routes including completion of major trails and pathways like the San Francisco Bay Trail and Richmond Greenway.

*See also: EH3.D; PR1.A; HW4.A; CN2.F*

**Action CR2.B**  
*Safe Routes to School Program*
Work with students, parents, transit providers, the West Contra Costa Unified School District, and other educational institutions to develop a Safe Routes to School Program. Identify and prioritize improvements necessary to make alternative modes of getting to and from school safer and more appealing. Also explore opportunities to create “walking school bus” programs where parents and other responsible adults can share the responsibility of escorting children to and from school by foot or bicycle.

*See also: EH1.F; HW4.F; EC2.G*
GOAL CR2
Walkable Neighborhoods and Complete Streets

**Action CR2.C**  
*Streetscape Improvements*
Continue to implement streetscape improvements to enhance access, lighting, safety and experience for pedestrians, bicyclists, transit users, and motorists. Focus improvements in areas with the highest need such as the Downtown, mixed-use corridors, key intersections, designated pedestrian priority districts and multi-use trails that connect high-density areas of the City to parks and open space.

Provide universal accessibility improvements, pedestrian-scale lighting and landscaping in streetscape improvements. Explore the potential for establishing assessment districts for implementing improvements in existing neighborhoods. Explore the potential for incorporating green street elements into streetscape design such as bioswales, rain gardens, planter strips and permeable pavement.

*See also: LU2.B; HW4.K; CF1.H*

**Action CR2.D**  
*Street Design Standards*
Update the City's street design standards so that they support public transit, bicycles and walking on all streets. The updated standards should be consistent with and tailored to street or trail function and adjacent land use type.

Pedestrian-friendly designs should address maximum lane widths, maximum curb radii, sidewalk width, curb ramps and Americans with Disabilities Act (ADA) requirements. Bicycle-friendly design should address lane widths, street and intersection crossings and parking areas. Include guidelines for transit access.

Identify priority thoroughfares for developing green streets in the City to implement a natural systems approach for stormwater management and to expand urban greenery.

Evaluate the feasibility of reducing the number or width of travel lanes on key mixed-use streets that have excess capacity such as Cutting Boulevard, and using the capacity and/or regained width for wider sidewalks and bicycle lanes.

*See also: EC4.E; HW4.N*

**Action CR2.E**  
*Signage and Wayfinding*
Install comprehensive signage and wayfinding elements that address all modes of travel including transit, trucks, bicycles, multi-use trails and cars. Include gateway elements at key locations such as Downtown and at major entry points to the City. Ensure consistency with signage and wayfinding elements for historic resources, recreation destinations and the Bay Trail.
GOAL CR2
Walkable Neighborhoods and Complete Streets

**Action CR2.F**  
*Lower Speed Limit Zone Study*
Explore the potential to designate streets around schools, parks and public gathering places as safety zones where the vehicular speed limit may be lowered to 20 miles per hour. Slower speed limits will make streets safer for bicyclists, children and seniors and help reduce fatalities.

*See also: HW4.J*

**Action CR2.G**  
*Street Connectivity Ordinance*
Utilize the American Planning Association’s PAS Report 556, Smart Codes: Model Land-Development Regulations to develop a Street Connectivity Ordinance that would require a high level of street connectivity in new public and private development projects. Specifically, the ordinance would:

- Require a proposed development to provide multiple direct connections in its local street system to and between local destinations, such as parks, schools, and retail, without requiring the use of arterial streets;
- Require a proposed development to incorporate and continue all collector or local streets stubbed to the boundary of the development by previously approved, but unbuilt development or existing development;
- Establish minimum internal and external street connectivity indices to provide adequate internal connectivity within a subdivision or planned development;
- Prohibit dead-end streets except in cases where such streets would be designed to connect with future streets on abutting land;
- Prohibit the use of long unconnected cul-de-sacs; and
- Prohibit the use of gated entry ways into residential developments.
GOAL CR3
A Safe and Well-Maintained Circulation System

Policy CR3.1 Safety and Accessibility
Enhance safety and accessibility for pedestrians, bicyclists and public transit riders. Promote walking, bicycling and transit use by improving key intersections and streets to reduce pedestrian and bicycle collisions. Support improvements at transit stations and stops to reduce crime and vandalism. Continue to work toward the elimination of at-grade railroad crossings to minimize traffic conflicts and increase connectivity and streetscape design to address traffic speeds and pollution.

See also: HW4.4

Policy CR3.2 Adequate Maintenance
Ensure adequate maintenance of transportation facilities such as streets, trails, sidewalks, bicycle paths, bus shelters, and street furniture. Ensure that maintenance occurs in a manner that is socially equitable.

Policy CR3.3 Concurrent Infrastructure Development
Require concurrent infrastructure development for new and redevelopment projects that may have a significant impact on the existing circulation system including streets, trails, sidewalks, bicycle paths and public transit.
GOAL CR3
A Safe and Well-Maintained Circulation System

Action CR3.A  At-Grade Railroad Crossings Improvements
Work with the railroads to improve safety at at-grade railroad crossings. Establish formulas that will provide fair-share contributions towards improvements where grade separations will enhance safety, community linkages and access for pedestrians, bicyclists and public transit. Explore the long-term feasibility of locating the railroad lines below grade at some areas of the City to reduce impact on the surrounding retail and residential uses while enhancing pedestrian safety and linkages.

See also: HW4.G

Action CR3.B  Traffic Calming
Develop strategies to calm traffic on streets that experience speeding or cut-through traffic. Include a range of solutions including engineering, education and enforcement measures. Engineering measures should consider emergency vehicle access as well as pedestrian and bicycle circulation and may include traffic circles, curb extensions, stop signs, narrow travel lanes, fewer travel lanes, landscaping and plantings. Education measures may include outreach materials, signs and postings, pledge campaigns and speed displays. Enforcement measures may include increased patrolling, ticketing and warnings.

See also: HW4.H

Action CR3.C  Circulation Development Impact Fee
Update the City’s development impact fee program to provide funding for future circulation improvements including pedestrian, bicycle, and public transit facilities and amenities.

See also: HW4.M
GOAL CR4
Efficient Movement of Goods

Policy CR4.1  
**Goods Movement**
Promote the safe and efficient movement of goods to support Port of Richmond operations and industrial uses. Providing adequate infrastructure improvements and maintenance will support industrial operations while minimizing impacts on neighborhoods and other sensitive land uses.

Policy CR4.2  
**Port of Richmond Operations**
Develop long-term strategies and plans that will support efficient operation of the Port by increasing throughput of goods and raw materials.
GOAL CR4
Efficient Movement of Goods

Work with business operators to develop and regularly update a citywide goods movement plan to integrate Port operations, rail movement and truck routes, provide a high level of goods movement capacity to serve all land uses in Richmond, and promote adoption of cleaner technology and fuels. Include strategies that will improve level of service while minimizing health, safety and nuisance impacts. Identify priority improvements such as grade separation and safety improvements for at-grade railroad crossings to reduce conflicts between different modes of travel. Collaborate with truck and railroad operations, the California Public Utilities Commission (CPUC) and Metropolitan Transportation Commission (MTC) to develop the plan.

Consider future expansion plans at ports in Richmond and Oakland. Coordinate with the Metropolitan Transportation Commission (MTC) to plan for potential additional track capacity in Richmond. Through cooperative planning, ensure that track capacity expansion in Richmond is accompanied by safety improvements including grade separation at crossings that carry high traffic, pedestrian and/or bicycle volumes, or have high accident rates. Include enforcement and education measures to ensure compliance with rail crossing traffic control devices and right-of-way rules.

Action CR4.B  Truck Routes Plan
Work with business operators and other stakeholders to re-route diesel trucks away from neighborhood streets and sensitive uses such as homes, schools, parks and playgrounds to minimize impacts from emissions and traffic conflicts. The Plan should specifically ensure that the most efficient and direct routes do not negatively impact low-income residents or communities of color disproportionately more than any other groups in terms of noise, air quality or safety. Collaborate with the community representatives, Port, truck operators, local businesses and regional and state transportation agencies to develop the new routes through port and industrial areas. Avoid land uses that place the construction of new residential dwelling units near major industrial truck facilities.
GOAL CR5
Sustainable and Green Practices

Policy CR5.1  
*Transportation Demand Management*
Promote transportation demand management strategies among residents and businesses to reduce reliance on automobiles. Encouraging major employers to develop and implement transportation demand management (TDM) for employees will address peak commute traffic, congestion and air quality. Encourage and support development and transportation projects that emphasize design elements for bicycle and pedestrian access.

Policy CR5.2  
*Renewable Energy and Clean Technology*
Promote the use of renewable energy, including non-fossil fuels, and clean technology for transportation including public transit and goods movement.

Policy CR5.3  
*Green Streets*
Promote the development of street design elements that incorporate natural stormwater drainage and landscaping in new and retrofitted streets.
**Action CR5.A  **

*Transportation Demand Management Program*

Develop a transportation demand management (TDM) program that encourages use of public transit, bicycling and walking. TDM programs may include transit subsidies, car-share service, parking cash-out programs, bicycle-share programs, bicycle amenities and facility enhancements, among others.

Include an incentive program to promote TDM in the City. Program elements may include reduction in transportation impact fees for new or redevelopment projects that demonstrate commitment to TDM strategies and reductions in parking requirements for mixed-use development and for projects that provide TDM programs and/or shared parking. Explore the feasibility of developing citywide TDM program that would be funded by annual fees or assessment on new development.

*See also: GM1.C*

**Action CR5.B  **

*Intelligent Transportation System*

Explore the potential for developing a citywide Intelligent Transportation System (ITS) to maximize the efficiency of the circulation system and enhance user experience. Use available technologies such as synchronized street lights, adaptive signal controls and real-time traffic, transit and parking information, among others. Establish real-time transportation information kiosks at major transit hubs and in pedestrian-oriented districts.

**Action CR5.C  **

*Climate-Friendly Fuel Using Vehicles*

Support the use of highly efficient climate-friendly fuel using vehicles, adequate alternative refueling stations and the use of waste for producing fuel where feasible or rational.

*See also: EC2.A; CN4.C*

**Action CR5.D  **

*City Vehicles Transition*

Increase the share of climate-friendly vehicles and use of climate-friendly fuels in the City and consider including bicycles in a corporate fleet where feasible.

*See also: EC2.B; HW10.I*

**Action CR5.E  **

*Diesel Engine Emissions*

Work with truck, maritime shipping, and rail operators to develop strategies that will reduce diesel emissions.
**Action CR5.F**

*Green Streets Program*
Expand the green streets program to support a sustainable approach to stormwater drainage, groundwater recharge and landscaping. Incorporate green streets standards and guidelines in all streetscape improvement projects in the City.

*See also: CF3.B; EC4.F;*
Summary of Implementing Actions

The table presented on the following pages is a tool for guiding implementation of the City’s Circulation Element. Organized by the community’s broad goals, the table provides an overview of policies and implementing actions detailed in the previous section. Each action is linked to a designated lead responsible party. Related policies are identified in the final column.

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<td>Parking Requirements and Parking Strategies Toolbox</td>
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### Goal CR2: Walkable Neighborhoods and Complete Streets

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### Goal CR3: A Safe and Well-Maintained Circulation System

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**Goal CR5: Sustainable and Green Practices**

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Secure the new 100 years

Circulation

Regulatory Framework

The following discussion provides an overview of City and public regulatory agencies that contribute to circulation planning in Richmond and the region.

Organizations

The following City Departments, regional agencies and committees govern transportation planning in the Richmond area.

City of Richmond Engineering Services Department

The City of Richmond Engineering Services Department provides a variety of engineering, operations and maintenance services in the City. The Engineering Services Department is responsible for: the City Capital Improvement Program; public works programs including pavement management, traffic congestion management, hazard elimination, clean water program, storm and sanitary improvements and streets and sidewalks (http://www.ci.richmond.ca.us/engineering/).

Contra Costa Transportation Authority

The Contra Costa Transportation Authority (CCTA) was created in 1988 to manage the funds generated by the voter-approved, half-cent transportation sales tax, Measure C, and its extension, Measure J. The CCTA oversees the planning and construction of the capital projects included in the Measure C and Measure J Expenditure Plans, and implements the County’s Growth Management Program.8

West Contra Costa Transportation Advisory Committee

The West Contra Costa Transportation Advisory Committee (WCCTAC) is one of four sub-regional transportation planning committees created in 1988 to advise the CCTA on Measure C expenditures and transportation concerns specifically related to the Cities of Richmond, El Cerrito, Hercules, Pinole and San Pablo, and the following transit agencies serving these cities: AC Transit, WestCAT and BART. WCCTAC also assists in designing and implementing improvement projects and programs related to local and regional transportation services that are not specifically linked to Measure C or Measure J funding, such as air quality improvement and congestion management.8

WCCTAC prepared the West Contra Costa Action Plan in 2000, which assesses transportation issues within West Contra Costa County and outlines recommended goals, objectives and actions for addressing those issues. The Action Plan designates Routes of Regional Significance and sets Traffic Service Objectives (TSOs). The Action Plan relates directly to the Countywide Comprehensive Transportation Plan, which is also known as the Congestion Management Plan (CMP). The latest CMP update was adopted by the CCTA in 2005.

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the Bay Area’s regional transportation planning agency and is the area’s federally designated Metropolitan Planning Organization (MPO). MTC plays an important role in financing transportation improvements from federal and state funds.

MTC is responsible for administering the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, freeway, airport, seaport, railroad, bicycle and pedestrian facilities. The RTP is a 20-year plan and is updated every two years. The Commission also screens requests from local agencies for state and federal grants for transportation projects to determine compatibility with the RTP.

California Department of Transportation

California Department of Transportation (Caltrans) owns and operates California’s freeway system. In Richmond, Caltrans facilities include Interstate 580, Interstate 80 and San Pablo Avenue. The City plans to turn over control of the Richmond Parkway to Caltrans, but first must identify and remedy certain deficiencies in order for Caltrans to accept control of this facility.
Notes

10. Contra Costa Transportation Authority (CCTA). http://www.ccta.net/about

Cover Artwork

1. Left: Photograph by Hector Rojas
2. Right: “Richmond’s Vision” (detail) by Lauren Ari, Richmond Resident