CIRCULATION ELEMENT





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PURPOSE STATEMENT

This Circulation Element details and outlines the City's plans to provide a transportation network system that allows the movement of people, goods, and services easily and safely throughout the City. A reliable and sound transportation strategy encourages economic growth and development, and enhances the safety and quality of life of the community. This element identifies the broader issues on which the City bases its circulation and transportation policies and outlines the City's goals and implementation policies to provide a safe and efficient transportation system strategy. This strategy also includes non-motorized modes of transportation such as bicycle and equestrian paths and pedestrian ways as well as bus routes.

The purpose of this Circulation Element is to provide the public, decision makers and staff a guide to implementing policies that will create a safe, efficient and balanced transportation network, improve environmental quality, encourage healthier lifestyles, and support economic development. It is intended to mitigate the conflicts associated with circulation like traffic congestion and lack of access which has challenged the City to develop policies that will improve overall circulation as the City continues to expand.

The Plan for the City's future street system envisions that it will serve multiple roles and functions:

- Provide for the safe and efficient mobility needs of residents, businesses, visitors, and emergency services
- Facilitate the movement of goods and services while minimizing impacts to sensitive land uses and vulnerable roadway users
- Promote physical activity and non-automotive travel within Hesperia through a comprehensive bicycle and pedestrian network accessible to people of all ages and abilities
- Provide for safe and convenient access to goods and services, job centers, and healthcare facilities for transit users





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BACKGROUND

CONTEXT AND SETTING

Circulation and transportation have played an integral part in the history and foundation of Hesperia. The first buildings were constructed after the Atchison, Topeka and Santa Fe Railroad tracks were built in the City. Shortly after construction of a rail depot in 1885, the City was officially named Hesperia. Even though freeways and streets have supplanted rail as the main means of transportation, the railroad remains important for the movement of goods and people in through of the City today. The City is planning to construct a railroad spur which will improve the movement of goods from the City's industrial area to outside markets.

The City is served by several major transportation routes including Interstate 15, US Highway 395 and State Highways 138 and 173. In addition to roadways, there are three rail lines that traverse the City; one Union Pacific Railroad rail line, and two (one via a branch line) Burlington Northern Santa Fe rail lines. The rail lines serve a mixture of freight cargo trains and passenger trains. The City's roadway network is generally based on a grid system with major arterials providing access to all portions of the City. The City's location relative to Interstate 15 and U. S. Highway 395 has resulted in establishment of multiple truck-related uses, which are in proximity to the Interstate 15/U. S. Highway 395 intersection.

RELATIONSHIP TO STATE LAW

Section 65302 of the State of California Government Code identifies seven mandatory elements in a General Plan, including Circulation. Section 65302 (b) defines the element and issues to be analyzed, including:

- Existing and Proposed Streets
- Transportation Routes
- Terminals
- Airports
- Ports,
- Military Airports and Ports
- Other Local Public Utilities and Facilities (addressed in Land Use Element)

Recent legislative updates require that jurisdictions incorporate the principles of the Federal Highway Administration's Safe System Approach with the aim of eliminating traffic injuries and fatalities. Additionally, jurisdictions must develop bicycle plans, pedestrian plans, and traffic calming plans for any urbanized area within the scope of the General Plan. These plans must identify safety corridors, use evidence-based safety strategies, and set goals for initiation and completion.

Each of these issues that are applicable to the City is included in the following sections of this Circulation Element:

- Street Classifications
- Roadway Capacity
- Physical Barriers
- Goods and Services
- Public Transit
- Non-vehicular Transit (Bikeway and Pedestrian)



RELATIONSHIP TO OTHER ELEMENTS

The Circulation Element is written in conjunction with all other elements of the General Plan and must reflect and complement those elements. Those elements which are most aligned with the Circulation Element are Land Use, Open Space and Safety. In addition, circulation and most particularly motorized circulation, has a strong influence on the Noise Element. The impact of the Hesperia Airport, the railroad lines, and arterial roadways is identified in detail within the Noise Element. As an example, one of the goals of the Circulation Element is to provide alternative forms of transportation. The goals of the Open Space Element echo this concern by identifying the need to provide a trail system for health and recreational benefits for the community. Similarly, areas specified in the Safety Element such as emergency evacuation routes are repeated in circulation.

As the City's population and built environment continues to expand, the need for providing safe and efficient access and mobility becomes essential in order to ensure the City's functionality and sustainability. This Circulation Element provides direction regarding the planning, development and utilization of circulation strategies and policies with the focus on providing a safe and efficient transportation network. The element also considers alternative modes of transportation. This corresponds to the Land Use Element, which includes goals and policies reducing dependence on the automobile.

Table CI-1 identifies the issues discussed in this Circulation Element and identifies other elements which include discussions which also address these issues.

Table CI-1
COORDINATION WITH OTHER GENERAL PLAN ELEMENTS

ISSUES	Conservation	Housing	Land Use	Noise	Open Space	Health & Safety
Circulation						
Street Classification			X	X		X
Roadway Capacity			X	X	X	X
Physical Barriers	X		X		X	
Highway Corridors			X			X
Goods and Services			X	X		X
Public Transit		X	X			X
Non-Vehicular Transit	X		X		X	X





STREET CLASSIFICATIONS AND CIRCULATION PLAN

Each roadway located within the City is designated with a classification depending on its role in the overall circulation network and its relationship to surrounding uses. The City's plan consists of 10 street classifications which are shown on the Circulation Plan (Exhibit CI-1). The Circulation Plan indicates the general location and extent of the different street classifications and how they relate to each other and to the City's land uses.

With the exception of local streets, which serve primarily single-family neighborhoods exclusively, Table CI-2 provides a brief description, street right-of-way specifications, and purpose of each classification.



Exhibit CI-1 Circulation Plan

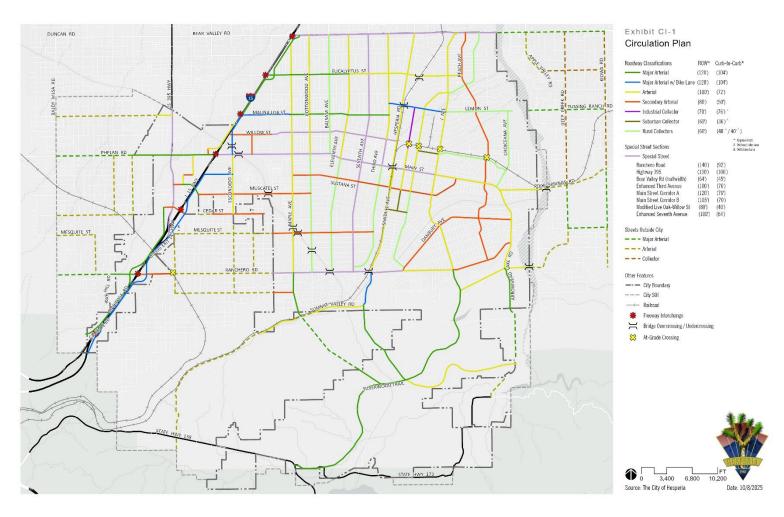




Table CI-2 STREET TYPES

Street Type	With/ Without Bike Lane	Total Width (Feet)	Curb to Curb (Feet)	Number of Travel Lanes (Total)	Center Turn Lane Width (Feet)	Raised Median Width (Feet)	Parkway Width (Feet)	Example
Super Arterial	W	140	92	6	No	14	16	Ranchero Road
Major	W	128	104	6	No	14	12	Main Street
Arterial	w/o	120	92	6	No	14	14	Mariposa Road
Arterial	W	100	72	4	12	No	14	Escondido Road
	w/o	100	72	4	14	No	14	Eucalyptus Street
Secondary	W	80	50	2	12	No	14	Danbury Avenue
Arterial	w/o	80	50	2	14	No	14	Peach Avenue
Modified Arterial	W	80	40	2	12	No	16	Live Oak/ Willow Street
Industrial Collector	w/o	70	46	2	14	No	12	C Avenue
Rural	W	60	48	2	10	No	12	Choiceana Avenue
Collector	w/o	60	40	2	12	No	20	Balsam Avenue
Suburban Collector	None	60	36	2	10	No	10	Lime Street
State Highway				To be deter	rmined by CALT	RANS		

Super Arterial

Super arterials are the primary local highways intended to provide efficient high-volume traffic flow across town along the Ranchero Corridor. With an approximately one hundred forty-foot (140') right-of-way, they are able to accommodate six lanes of traffic as well as pathways for both pedestrians and non-motorized vehicles. Super highways incorporate landscaped medians to protect vehicles traveling at the higher speeds allowed on such roadways.

Exhibit CI-2 shows the cross-section for a super arterial.

Exhibit CI-2
Super Arterial 140' ROW – with Multi-Use Pathway



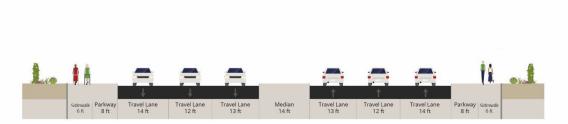


Major Arterials

Major arterials are the largest of the local surface street roadways, intended to link freeways with local streets, accommodating larger volumes of through-traffic moving at higher speeds than local streets. Major arterials are primary thoroughfares that connect the City with adjacent cities and the regional highway system. With a right-of-way between one hundred twenty-(120') and one hundred twenty eight-foot (128') right-of-way, major arterials have six travel lanes and provide eight-foot (8') sidewalks. With the larger right-of-way, bicycle access is provided within the curb-to-curb right-of-way. With the smaller right-of-way, such bicycle lanes are not provided. Like Super arterials, major arterials incorporate a landscaped median.

Exhibit CI-3 is the cross section for a one hundred twenty-foot (120') right-of-way and Exhibit CI-4 shows the one hundred twenty-eight-foot (128') right-of-way.

Exhibit CI-3 Major Arterial 120' ROW – without Bike Lane



Major Arterial without Bike Lane Total Width: 120 ft



Exhibit CI-4 Major Arterial 128' ROW – with Bike Lane

Major Arterial with Bike Lane Total Width: 128 ft





Arterials

With a one hundred-foot (100') right-of-way, arterials are narrower than major arterials, providing four travel lanes. However, they serve the same purpose linking local collector streets and neighborhoods to citywide areas of interest and to regional corridors. Meandering sidewalks are provided to encourage pedestrian use and access. Bicycle access may or may not be provided, depending on whether or not the arterial is included on the citywide bicycle path plan. A two-way turning lane is included in the center of the right-of-way, between the four travel lanes.

Exhibit CI-5 depicts an arterial with bicycle lanes and Exhibit CI-6 illustrates one without a bicycle lane.

Exhibit CI-5 Arterial 100' ROW - with Bike Lane

Arterial with Bike Lane Total Width: 100 ft



Exhibit CI-6 Arterial 100' ROW - without Bike Lane



Secondary Arterial

Secondary arterials are roadways with an eighty-foot (80') right-of-way, consisting of one travel lane in each direction. Their primary purpose is to link local collector streets with Arterial and Major Arterial roads. With meandering sidewalks for pedestrian use and access, they may or may not have bicycle lanes incorporated within the right-of-way. Secondary arterials also incorporate a two-way left turn pocket in the center of the right-of-way.

Exhibit CI-7 shows a secondary arterial with a bicycle lane and Exhibit CI-8 is the cross section of a secondary arterial without a bicycle lane.

Exhibit CI-7 Second Arterial 80' ROW - with Bike Lane



Exhibit CI-8 Second Arterial 80' ROW - without Bike Lane

Second Arterial without Bike Lane
Total Width: 80 ft

Parkway

Parkway

1 Sidewalk
8 ft

Travel Lane
18 ft

Travel Lane
18 ft

Travel Lane
18 ft

Sidewalk
8 ft

Travel Lane
18 ft

Travel Lane
18 ft

Sidewalk
8 ft

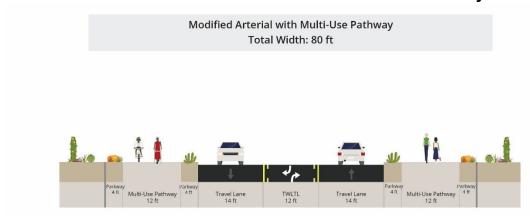


Modified Arterial

The modified arterial is based on the specifications of a secondary arterial, with slightly varying characteristics such as curb-to-curb distance and parkway width. They serve the same purpose of transporting traffic from collector streets to arterial and major arterials. Multi-use pathways for pedestrians and bicycles can be included. A modified arterial includes a two-way turn pocket in the center, between the two travel lanes.

Exhibit CI-9 is the cross section showing the design of the modified arterial.

Exhibit CI-9
Modified Arterial 80' ROW –with Multi-Use Pathway





Industrial Collector

Industrial collector streets provide a transition between local streets and higher-speed arterial roadways within the industrial areas of the City. With a seventy-foot (70') right-of-way, these roadways have one travel lane in each direction and a two-way turning pocket in the center. They are built to withstand the weight of trucks and other industrial vehicles. Sidewalks are provided to allow for pedestrian access; however they do not include bicycle lanes.

Exhibit CI-10 illustrates the industrial collector.

Exhibit CI-10 Industrial Collector 70' ROW – without Bike Lane

Rural Collector

Rural Collectors provide a connection between Arterial Streets and local streets in undeveloped areas of the City. These roadways have one travel lane in each with a turning lane in the center. There is no curb or sidewalk. They may or may not have a bicycle lane. These roadways are expected to be upgraded as the areas they serve are developed.

Exhibits C-11 and C-12, on the next page, depict the standards for the rural collector roadways with and without bicycle lanes, respectively.

Exhibit CI-11
Rural Collector 60' ROW - with Bicycle Lane

Rural Collector with Bike Lane Total Width: 60 ft

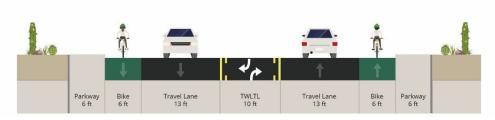
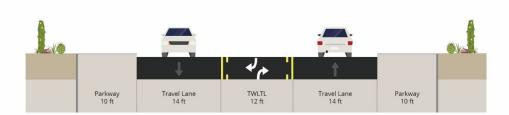


Exhibit CI-12
Rural Collector 60' ROW - without Bicycle Lane

Rural Collector without Bike Lane Total Width: 60 ft



Suburban Collector

Suburban Collectors provide a connection between the various types of arterial streets and local streets in undeveloped areas of the City. These roadways have one travel lane in each direction, with a two-way turning lane in the center. Sidewalks are provided to allow for pedestrian access. Bicycle lanes are not part of a suburban collector.

Exhibit CI-13 is the cross section for a suburban collector.

Exhibit CI-13
Suburban Collector 60' ROW – without Bicycle Lane

Sidewalk 6 ft Tavel Lane 13 ft Travel Lane 13 ft Sidewalk 6 ft 13 ft Travel Lane 13 ft Sidewalk 6 ft 15 ft 16 ft 17 ft 18 ft 1

CIN HESPERIA

CIRCULATION

State Highway

State highways are multi-lane, limited-access, high-volume, high-speed roadways constructed for regional and interregional vehicular travel. Access to these facilities is restricted to interchange ramps at selected roadways along their route. Their purpose is to connect cities and regions together. Freeways are under the jurisdiction of the California Department of Transportation (CALTRANS). US Highway 395 (US 395), State Route 138 (SR 138) and State Route 173 (SR 173) are designated as state highways. Consequently, the design of these highways is not included within this document.

Local Streets

Local Streets are neighborhood roadways with one travel lane in each direction. They are narrower in width than collector streets and designed for very low traffic speeds. Unless otherwise posted, the speed limit on local roadways is 25 miles per hour. These roadways typically serve residential areas. and are designed based on their expected use and capacity requirements associated with new residential development. The City has established street design standards for local roadways.

Special Street Sections

The city has several streets with specialized hybrid cross-sections designed for unique road situations. The characteristics of these streets are discussed in this element and are also identified in the Traffic Circulation Plan.

Enhanced Third Avenue. A portion of Third Avenue between Main Street and Willow Street has been designated for enhancement as part of the Main Street and Freeway Corridor Specific Plan. Enhanced Third Avenue section provides a unique landscaped pedestrian pathway in the center median to encourage non-motorized trips to the downtown and commercial area on Main Street. In addition to the pedestrian median, bike lanes are also included in this section.

Exhibit CI-14 is the cross section showing the design of the enhanced-Third Avenue.

Exhibit CI-14 Enhanced Third Avenue 100' ROW.





Bear Valley Road. The southern half of Bear Valley Road is located in the City of Hesperia, whereas the northern half of the road is located in the City of Victorville. The Bear Valley Road section extends from the I-15 freeway to the eastern city limits by the Mojave River. Bicycle lanes are included in this section.

Exhibit CI-15 is the cross section showing the design of the Bear Valley Road section.

Exhibit CI-15 Bear Valley Road





Ranchero Road. The Ranchero Road corridor extends from Mariposa Road to Danbury Avenue and is designed to link local traffic with the regional highway system and adjacent cities. The center landscape median will enhance the aesthetics of the corridor as well as separating the traffic flow. Bike lanes are not included in this section.

Exhibit CI-16 is the cross section showing the design of the Ranchero Road section.

Exhibit CI-16 Ranchero Road

Ranchero Road Total Width: 140 ft





US 395. The cross-section for US 395, a Caltrans facility, from Joshua Tree Street/US-395 exit off of Interstate I-15 to the city's northerly boundary at Smoke Tree Road is designed to carry heavy trucks to the City's industrial area west of I-15. (Trucks are prohibited from using Main Street between US 395 and I-15.) US 395 connects local traffic to the I-15 freeway and provide access to some cities in the region including Adelanto and Phelan. Bike lanes are not included in this section.

Exhibit CI-17 is the cross section showing the design of the Highway US-395.

Exhibit CI-17 Highway US-395.

Highway US-395





Main Street Corridor 'A'. The Main Street Corridor 'A' is located within the Main Street and Freeway Corridor Specific Plan and extends from the I-15 freeway to Ninth Avenue. This corridor includes a landscape median which will enhance the aesthetics of Main Street as well as a widen pathway to encourage non-motorized forms of transportation. This section does not include a bike lane.

Exhibit CI-18 is the cross section showing the design of the Main Street Corridor 'A'

Exhibit CI-18 Main Street A

Main Street A Total Width: 120 ft





Main Street Corridor 'B'. The Main Street Corridor 'B' is located within the Main Street and Freeway Corridor Specific Plan and extends from Ninth Avenue to I Avenue. This corridor includes a landscape median which will enhance the aesthetics of Main Street as well as a widen pathway to encourage non-motorized forms of transportation. This section does not include a bike lane.

Exhibit CI-19 is the cross section showing the design of the Main Street Corridor 'B'.

Exhibit CI-19 Main Street B

Main Street B Total Width: 105 ft





Live Oak-Willow Street. The Live Oak-Willow Street section extends from Topaz Avenue to Hesperia Road. This section includes a meandering pathway to encourage non-motorized transport through walking or bicycling. This section does not include a bike lane.

Exhibit CI-20 is the cross section showing the design of the Live Oak-Will Street section.

Exhibit CI-20 Live Oak Willow Street





Seventh Avenue. The Seventh Avenue special section extends through residential, commercial and municipal land uses that occur along this thoroughfare from Bear Valley Road south to Ranchero Road. This section includes a multiuse pathway and a bike lane on both sides of the roadway to encourage non-motorized transportation through the north-south corridor.

Exhibit CI-21 is the cross section showing the design of the Seventh Avenue section.

Exhibit CI-21 Enhanced Seventh Avenue

7th Avenue with Bike Lane Total Width: 100 ft





EVALUATING TRAFFIC CONDITIONS

Roadway classifications are based on existing traffic conditions, as well as projected traffic associated with General Plan buildout. Traffic counts are typically collected on roadway segments at mid-block locations to determine number of travel lanes needed today, and to model future travel demand to determine future capacity needs.

Roadway operations and the relationship between street capacity and traffic volumes are generally expressed in terms of Levels of Service (LOS), which are scored using the letter grades A through F. The LOS describes the ability of an intersection or road segment to meet its intended traffic volume design capacity. Each LOS rating describes how people perceive the amount of congestion or difficulty in reaching their destinations. LOS is ranked from A, representing no limitation on movement (best), to F, representing very high levels of traffic congestion (worst). Current circulation policy calls for all roadways to achieve and maintain a LOS D and intersections to achieve LOS C.



Table CI-3, shows the definitions of the six levels of service.

Table CI-3 LEVEL OF SERVICE DEFINITIONS

Level of	Description	Delay
Service		(seconds)
A	Excellent operation. All approaches to the intersection appear quite open,	≤ 10.00
	turning movements are easily made, and nearly all drivers find freedom	
	of operation.	
В	Very good operation. Many drivers begin to feel somewhat restricted	10.1 - 20.0
	within platoons of vehicles. This represents stable flow. An approach to	
	an intersection may occasionally be fully utilized and traffic queues start	
	to form.	
С	Good operation. Occasionally drivers may have to wait more than 60	20.1 - 35.0
	seconds, and back-ups may develop behind turning vehicles. Most	
	drivers feel somewhat restricted.	
D	Fair operation. Cars are sometimes required to wait more than 60 seconds	35.1 - 55.0
	during short peaks. There are no long-standing traffic queues.	
Е	Poor operation. Some long-standing vehicular queues develop on critical	55.1 - 80.0
	approaches to intersections. Delays may be up to several minutes.	
F	Force Flow. Represents jammed conditions. Backups form locations	≥ 80.0
	downstream or on the cross street may restrict or prevent movement of	
	vehicles out of the intersection approach lanes; therefore, volumes	
	carried are not predictable. Potential for stop and go type traffic flow.	

PHYSICAL BARRIERS

There are significant topographical and physical barriers that inhibit efficient movement in the City's circulation network such as railroads, river/water bodies, and state and interstate highways with limited access and crossings. These obstacles create a significant physical barrier to traffic circulation resulting in high traffic congestion in areas where city vehicular traffic is funneled to these limited crossing points. The City has identified several high traffic areas and is looking to develop additional crossings to reduce traffic congestion as part of its Capital Improvement Program.

Railroad Crossings

The BNSF Railway and Union Pacific Railroad (BNSF/UP) corridor constitutes a major barrier to east-west circulation across the City.

Three grade separations currently cross the BNSF/UP lines at Bear Valley Road, Main Street, and Ranchero Road. The City's current circulation plan also shows planned railroad crossings at Eucalyptus Street, Lemon Street/Mauna Loa Street, and Sultana Street. The following discussion addresses issues associated with the planned future crossings.

Eucalyptus Street

There is an offset in the alignment of Eucalyptus Street at the BNSF/UP railroad corridor, so the acquisition of properties will be necessary to realign the street and construct the grade separation.



Lemon Street/Mauna Loa Street

There is an offset in the alignments of the two streets near the BNSF/UP railroad corridor, but the circulation plan shows these two streets as one continuous street. The City has conceptually evaluated alignment possibilities and believes the crossing is viable.

Lemon/Mauna Loa is planned to be connected with Mojave Street further west, which is planned to have an interchange at I-15.

Maple Avenue

With substantial future development planned for the southern part of the City, an extension of Maple Avenue southerly across the railroad line will provide these new areas with a railroad crossing west of the California Aqueduct. However, this crossing is not currently shown on regional plans.

Whitehaven Road

An alternative to the Maple Street crossing is Whitehaven Road (south of Ranchero Road in unincorporated San Bernardino County). As with Maple Street, this potential crossing is not currently shown on regional plans.



River Crossings

The Mojave River constitutes a major barrier to east-west circulation at the eastern boundary of the City. Two crossings currently exist: a bridge at Bear Valley Road and a two-lane at-grade crossing through the river channel at Rock Springs Road.

The City's plan shows a future bridge crossing Rock Springs Road (4 lanes). The following discussion addresses issues associated with future crossing.

Rock Springs Road

This crossing currently runs into the Mohave River Channel. It is shown as a four-lane bridge on the County plan as well as on the City plan. San Bernardino County is responsible for its maintenance, as this crossing can be closed during the winter storm season. This crossing was recommended in VVATS for future upgrade to a four-lane bridge.

VVATS has determined that only one river crossing will be needed south of Rock Springs Road in the future.

California Aqueduct

The California Aqueduct is also a barrier that transverses through the center of the City creating access limitations for all streets except for existing crossings at Main Street, Maple Avenue, Seventh Avenue, Mesquite Street, Cottonwood Avenue and Ranchero Road.

I-15 Freeway Interchanges and Crossings

Interchanges on I-15 currently exist at Bear Valley Road, Main Street, Joshua Street/US 395, and Oak Hills Road. The latter two are not designed to accommodate large volumes of traffic. As development occurs in the City and the region in the future, local and regional traffic volumes will also increase, necessitating additional interchanges to provide efficient access to the regional highway system.

The City's Master Plan for Arterial Highways proposes a future interchanges at Mojave Street, as well as crossings at Willow Street and Muscatel Street.

Mojave Street

An interchange at this location would provide a connection to the Lemon Street corridor that has planned crossings of the railroad and Mojave River, thus providing a major east-west transportation corridor.

Muscatel Street

The City currently favors a full interchange at Muscatel (rather than an overcrossing); with Joshua Street converted from a partial interchange to an overcrossing.

HIGHWAY CORRIDORS

Future improvements are planned for Interstate 15 to ensure it will have sufficient capacity to accommodate expected traffic loads. In addition, two new highway corridors are being planned or studied, which could pass through part of Hesperia.

The following discussion presents the current status of planning for each.

I-15

The I-15 Major Corridor Study recommended that I-15 be widened to accommodate an additional general purpose lane and a high occupancy vehicle (HOV) lane in each direction between US-395 and the Mojave River.

US 395

Caltrans has completed design for widening US 395 to six lanes and construction is anticipated to begin in 2025.

Southeast Beltway

VVATS evaluated the need for a major highway corridor around the southeast portion of the Victor Valley. The VVATS recommends a future major highway corridor from I-15 (near SR-138) to approximately the intersection of SR-138 and Summit Valley Road. From there, the two arterials are projected to provide sufficient capacity with six lanes on SR-138 and four lanes on Summit Valley Road, which would be extended easterly through the Rancho Las Flores planning area to a new crossing of the Mojave River.

By law, the City must establish goals and objectives that identify existing traffic conditions and address traffic congestion. To this end, the City establishes the following goals and policies that focus on maintenance and improvements to the roadway systems.



Goal: CI-1	A roadway network that provides for the safe and efficient mobility needs of residents, businesses, visitors, and emergency services.
Policy CI-1.1	Maintain a multi-year Capital Improvement Program to ensure the organized financing and construction of roadway and intersection improvements that meet existing and future demands of the community.
Policy CI-1.2	Periodically review and maintain street roadway classifications and standards to serve both local and regional traffic.
Policy CI-1.3	Support the development of regional transportation facilities that ensure the safe and efficient movement of people and goods between the city and outside areas, accommodating regional travel demands while minimizing adverse transportation impacts on Hesperia residents and businesses.
Policy CI-1.4	Strive to maintain a citywide level of service (LOS) standard of LOS D or better on all roadways and intersections: LOS E during peak hours shall be considered acceptable through freeway interchanges and major corridors (Bear Valley Road, Main Street/Phelan Road, Highway 395).
Policy CI-1.5	Coordinate with the County and other agencies on long-term plans, proposed development projects, and capital improvements while minimizing adverse traffic impacts on Hesperia residents and businesses.
Policy CI-1.6	Require new development to pay a fair share of needed transportation improvements based on a project's impacts to the City's motorized and non-motorized transportation networks.



Policy CI-1.7	Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
Policy CI-1.8	Encourage the installation, modernization, and improvement of grade separations at rail crossings to facilitate more convenient access for cars, trucks, and emergency vehicles.
Policy CI-1.9	Regularly update the pavement management plan and maintain roadways to ensure safety and functionality, as an investment strategy, and to improve the City's image and quality of life.
Policy CI-1.10	Coordinate with SBCTA, the County of San Bernardino, and CalTrans to improve the segment of Summit Valley Road between the City's boundary and Highway 138.
Policy CI-1.11	Support the implementation of Safe Systems Approach principles through the adoption and maintenance of a Local Roadway Safety Plan.

GOODS MOVEMENT

Industrial and commercial growth through transportation-related businesses has boosted the City's economy, and the level of commerce is enhanced by the availability of consumer goods and providing goods and services to residents.

This Circulation Element seeks to manage balancing the transportation and circulation of goods and services with the health, welfare and safety of the public, by mitigating traffic congestion, air quality issues, noise and safety that are a result of the movement of goods and services. The Land Use Element has provided separation of properties designated for commercial and industrial development. However, the roadways necessary to transport these goods and services also provide access to residential areas.

Truck Transportation

Truck movement and circulation is a vital part of the City's economy and financial sustainability. Trucks have to be able to move their goods and services to businesses around the City without creating an impact to traffic, safety, air quality and noise which may disrupt the local community. To accommodate the large volumes of truck traffic associated with goods movement, and to protect the residential and commercial neighborhoods, a system of arterial roads to facilitate efficient truck movement is needed. Figure CI-21 shows the roadways designated as truck routes by the City of Hesperia, CalTrans, and neighboring jurisdictions.

Rail Transportation

There are three rail lines that pass through the City; one Union Pacific Railroad rail line, and two (one via a branch line) Burlington Northern and Santa Fe (BNSF) rail lines.

The BNSF rail line enters at the City's sphere of influence in Summit Valley through the Cajon Pass, traveling northeast through the middle of the City, parallel to Hesperia Road, and exits at the northern City boundary. This portion of rail is part of the San Bernardino-Barstow route and serves both passenger and freight trains. The BNSF rail line is a part of the nationwide transportation network from the transfer of goods from the ports in Long



Beach and Los Angeles to the western and central portions of the country. The Amtrak Southwest Chief passenger trains also utilize the BNSF mainline. Approximately 80 to 100 trains pass through the City using this rail line every day.

A branch line to Lucerne Valley runs easterly from the BNSF mainline, crossing Hesperia's eastern City boundary into Apple Valley near the Rock Springs Road crossing. This route is used solely by the Mitsubishi Cement Plant in Lucerne Valley. Only one or two trains use this rail line per day. The City is planning to construct the Lead Track project to extend a new rail spur north from this branch. This new spur will serve industrial properties in this area and provide an alternative to trucking raw materials and finished goods manufactured in this area.

The Union Pacific Railroad rail line enters the City's sphere of influence in Summit Valley through Cajon Pass, parallel to the BNSF railroad tracks. The Union Pacific tracks travel northwest across Oak Hills, exiting the City at the western sphere of influence boundary towards Palmdale. This route connects West Colton to Palmdale and is utilized entirely by freight trains. Approximately ten trains pass through the City using this rail line each day.

The impact of the rail lines on the City's circulation system are outlined above.

Air Transportation

Hesperia Airport is the only airport facility located within the City. This private airport is located in the southern portion of the City adjacent to the BNSF Railway, south of Ranchero Road. The airport provides aviation services to small non-commercial aircraft, as well as emergency air services such as air ambulances, California Highway Patrol, and fire control aircraft. The facility occupies approximately 26 acres, and consists of one 3,950-foot paved runway, three private hangars, one maintenance hanger, and air lodge, and a restaurant. Approximately 12 aircraft are based at the airport. Due to surrounding development and the topography at the southern end of the runway, this airport cannot be expanded beyond its current size and capacity.

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CIRCULATION

Two other airports exist within the vicinity of the City; Apple Valley Airport and Southern California Logistics Airport. Apple Valley Airport is a regional facility controlled by San Bernardino County and is located off of Highway 18 and Corwin Road in Apple Valley. This airport serves a variety general aviation aircraft from small non-commercial planes to jet sized aircraft. The airport occupies 778 acres and provides 6,500 feet of paved runway and a 3,000-foot cross-wind runway. The airport also includes maintenance and private hangers, Mid-Field Aviation and Flightline Aviation Academy, flight schools, sky diving, charter schools, rental services, and a restaurant. It is estimated that over 200 aircraft are based at the airport.

Southern California Logistics Airport is located in the northwestern portion of the City of Victorville. Formerly active as George Air Force Base, this airport is now used as a logistical hub for national and global air cargo shipping. The facility includes a 5,000 acre intermodal business complex, and a 10,050-foot runway. The airport is predominately used by air freight aircraft and fire aircraft services. The U.S. Army also uses the airport to transport troops to and from various forts.

The airports are more specifically discussed in both the Land Use and the Safety Elements.

To this ensure that the needed movement of goods and services throughout the community is provided while protecting local neighborhoods, the following goals and objectives are established.

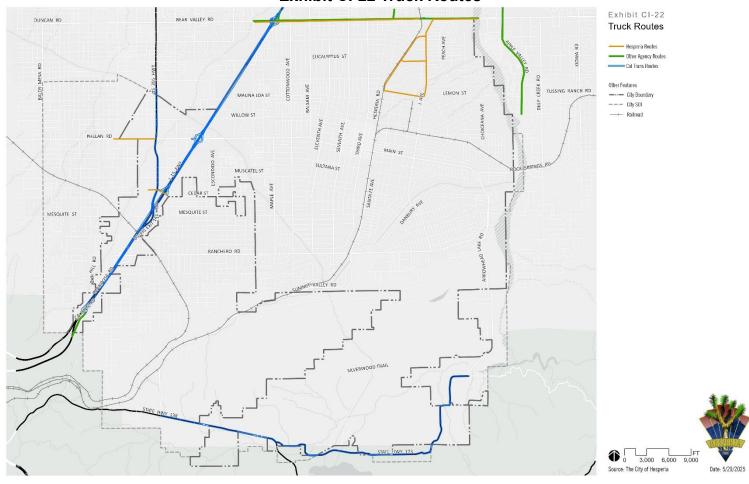
Goal: CI-2	A circulation system that facilitates the movement of goods and services while minimizing impacts to sensitive land uses, such as homes, schools, and hospitals, and vulnerable roadway users, such as pedestrians and cyclists.
Policy CI-2.1	Maintain a network of truck routes that provides for the safe and efficient transport of goods while minimizing negative impacts on local circulation and sensitive receptors.
Policy CI-2.2	Require new truck-intensive land uses to design and incorporate space and facilities in order to reduce truck queueing, parking, and idling in the public rights-of-way.



Policy CI-2.3	Support improvements to roadways and rail facilities that increase the efficiency of goods movement; enhance the safety of rail operations, motor vehicles, and non-motorized modes of mobility; and minimize noise and vibration impacts on sensitive land uses.
Policy CI-2.4	Maintain Hesperia Airport as a general aviation facility, in conformance with the Comprehensive Airport Land Use Plan, and explore opportunities to activate the airport for community benefit.



Exhibit CI-22 Truck Routes





Non-Vehicular Transportation

To achieve efficient and effective travel within the City, policies should not just focus on strategies to serve vehicular traffic, but also on ways to encourage the use of alternative non-vehicular transit options. Pedestrian, bicycle, equestrian and other non-vehicular pathways and trails are necessary components of a complete circulation system.

Areas developed with a mix of land use types should be planned to include walkways and bicycle facilities that facilitate non-motorized travel for both short walking trips as well as short and long bicycle trips.

These non-motorized forms of travel are represented in the City's Non-Motorized Transportation Plan (Exhibit CI-22).

Goal: CI-3	A comprehensive bicycle and pedestrian network that promotes physical activity and non-automotive travel within Hesperia for people of all ages and abilities.
Implementation Policy CI-3.1	Design new on- and off-street facilities to accommodate pedestrians, cyclists, and equestrians based on a combination of the land use and roadway context to promote safety and efficiency for all users.
Implementation Policy CI-3.2	Establish and maintain an interconnected trail system that promotes safe and convenient travel to transit stops and between residential and commercial areas, schools, parks, recreation facilities and other key destination points.



Implementation Policy CI-3.3	Leverage public rights-of-way, easements, and other public spaces to maintain and expand the non-motorized network.
Implementation Policy CI-3.4	Prioritize improvements along Main Street that facilitate a more pedestrian-friendly environment.
Implementation Policy CI-3.5	Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.

PUBLIC TRANSIT

Public transportation provides an essential mode of transportation for those without access to automobiles, and an alternative mode of travel for motorists, which can help reduce traffic and congestion on the City's street network. The City plays a key role in the use of transit through land planning efforts. Projects can be designed to provide bus stops. These transit stops shall include comfortable waiting areas to promote ridership.

The City is a member of the Victor Valley Transit Authority (VVTA), along with the cities of Adelanto, Victorville, the Town of Apple Valley, and the County of San Bernardino. The VVTA provides multiple occupancy vehicle service to the City with the intent to reduce traffic congestion, vehicle miles traveled, and vehicle trips which improves air quality. Also, the City provides Victor Valley Transit Authority with input and information that can help them to provide service in the areas that best meet the needs of the local community.



Park-and-Ride

As the population commuting through the Cajon Pass continues to grow, the need for parking facilities to incentivize shared vehicle ridership becomes increasingly more important. There is a park and ride facility located at the Joshua Street exit off of Interstate 15. This facility serves commuters travelling down the Cajon Pass to rideshare and carpool with other commuters. This reduces the number of single-occupancy vehicles and the overall traffic volume on the interstate.

Rail

The Amtrak Southwest Chief passenger train regularly passes through Hesperia on the Burlington Northern and Santa Fe (BNSF) main railroad line. The train route travels from Los Angeles to Chicago, Illinois. The nearest Amtrak station is located in the City of Victorville. The station includes a Park and Ride, facilitating use of Amtrak by commuters.

Bus

The Victor Valley Transit Authority (VVTA) provides the local bus service for the City and adjacent communities of Adelanto, Apple Valley, Victorville, and San Bernardino County. VVTA operates four bus routes in Hesperia, providing bus connections between shopping centers, public facilities, the Mall of Victor Valley, hospitals, schools, colleges, and residential areas.

The four routes include:

- Route 21 Victor Valley Mall-Serrano High School-Wrightwood Community Center (Phelan-Baldy Mesa-Bear Valley)
- Route 43 Victor Valley-Victor Valley College-Apple Valley High School (Bear Valley-Seventh Avenue)
- Route 44 Victor Valley Mall-Hesperia City Hall-Mojave High School-Hesperia Post Office-Sultana High School (Bear Valley-Cottonwood-Main Street-Seventh Avenue-Third Avenue-E Avenue-I Avenue-Sultana-Danbury-Arrowhead Lake)
- Route 45 Desert Valley Hospital-Victor Valley College-Hesperia Post Office (Bear Valley-Main-Sultana-I Avenue-E Avenue-C Avenue-Muscatel-Santa Fe)





Para-Transit

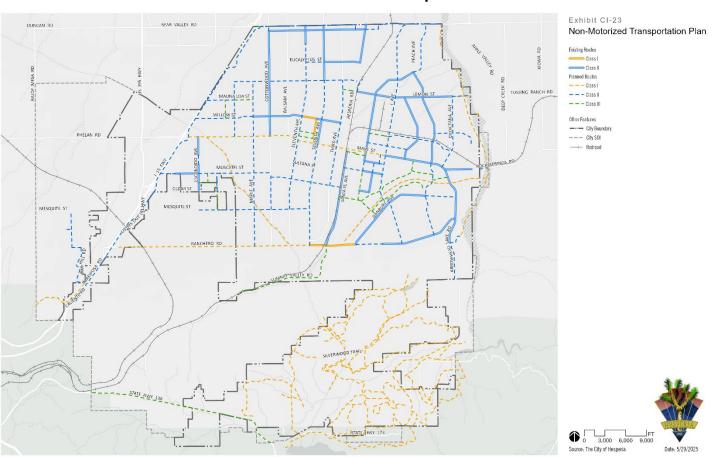
Victor Valley Transit Authority (VVTA) provides para-transit services for persons with special needs on any paved street within the City as long as it is within their service boundaries. The VVTA para-transit services do not travel a fixed route. Certified passengers are required to schedule rides at least one day in advance.

In order to incentivize the use of public transport as an alternative to the motor vehicle and to promote increased public transit ridership, the following goals and objectives are established.

Goal: CI-4	A transit network that provides for safe and convenient access to goods and services, job centers, and healthcare facilities.
Implementation Policy CI-4.1	Coordinate with Victor Valley Transit Authority (VVTA) to provide residents and workers with accessible and convenient service between residential neighborhoods, commercial centers, educational facilities, employment nodes, and medical facilities.
Implementation Policy CI-4.2	Coordinate with VVTA to install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.
Implementation Policy CI-4.3	Support the development of a regional commuter rail line that connects residents with employment centers and essential services in San Bernardino and Los Angeles counties and to reduce traffic on Interstate 15.



Exhibit CI-23 Non-Motorized Transportation Plan



A thorough discussion of the City's pedestrian, bicycle and equestrian trails and pathways is provided in the Open Space Element of this General Plan.



SUMMARY OF GOALS AND IMPLEMENTATION POLICIES CIRCULATION ELEMENT

Roadway Network	
Goal: CI-1	A roadway network that provides for the safe and efficient mobility needs of residents, businesses, visitors, and emergency services.
Policy CI-1.1	Maintain a multi-year Capital Improvement Program to ensure the organized financing and construction of roadway and intersection improvements that meet existing and future demands of the community.
Policy CI-1.2	Periodically review and maintain street roadway classifications and standards to serve both local and regional traffic.
Policy CI-1.3	Support the development of regional transportation facilities that ensure the safe and efficient movement of people and goods between the city and outside areas, accommodating regional travel demands while minimizing adverse transportation impacts on Hesperia residents and businesses.
Policy CI-1.4	Strive to maintain a citywide level of service (LOS) standard of LOS D or better on all roadways and intersections: LOS E during peak hours shall be considered acceptable through freeway interchanges and major corridors (Bear Valley Road, Main Street/Phelan Road, Highway 395).



Policy CI-1.5	Coordinate with the County and other agencies on long-term plans, proposed development projects, and capital improvements while minimizing adverse traffic impacts on Hesperia residents and businesses.
Policy CI-1.6	Require new development to pay a fair share of needed transportation improvements based on a project's impacts to the City's motorized and non-motorized transportation networks.
Policy CI-1.7	Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
Policy CI-1.8	Encourage the installation, modernization, and improvement of grade separations at rail crossings to facilitate more convenient access for cars, trucks, and emergency vehicles.
Policy CI-1.9	Regularly update the pavement management plan and maintain roadways to ensure safety and functionality, as an investment strategy, and to improve the City's image and quality of life.
Policy CI-1.10	Coordinate with SBCTA, the County of San Bernardino, and CalTrans to improve the segment of Summit Valley Road between the City's boundary and Highway 138.
Policy CI-1.11	Support the implementation of Safe Systems Approach principles through the adoption and maintenance of a Local Roadway Safety Plan.



Goods Movement	
Goal: CI-2	A circulation system that facilitates the movement of goods and services while minimizing impacts to sensitive land uses, such as homes, schools, and hospitals, and vulnerable roadway users, such as pedestrians and cyclists.
Policy CI-2.1	Maintain a network of truck routes that provides for the safe and efficient transport of goods while minimizing negative impacts on local circulation and sensitive receptors.
Policy CI-2.2	Require new truck-intensive land uses to design and incorporate space and facilities in order to reduce truck queueing, parking, and idling in the public rights-of-way.
Policy CI-2.3	Support improvements to roadways and rail facilities that increase the efficiency of goods movement; enhance the safety of rail operations, motor vehicles, and non-motorized modes of mobility; and minimize noise and vibration impacts on sensitive land uses.
Policy CI-2.4	Maintain Hesperia Airport as a general aviation facility, in conformance with the Comprehensive Airport Land Use Plan, and explore opportunities to activate the airport for community benefit.
Non-Vehicular Transportation	
Goal: CI-3	A comprehensive bicycle and pedestrian network that promotes physical activity and non-automotive travel within Hesperia for people of all ages and abilities.



Policy CI-3.1	Design new on- and off-street facilities to accommodate pedestrians, cyclists, and equestrians based on a combination of the land use and roadway context to promote safety and efficiency for all users.
Policy CI-3.2	Establish and maintain an interconnected trail system that promotes safe and convenient travel to transit stops and between residential and commercial areas, schools, parks, recreation facilities and other key destination points.
Policy CI-3.3	Leverage public rights-of-way, easements, and other public spaces to maintain and expand the non-motorized network.
Policy CI-3.4	Prioritize improvements along Main Street that facilitate a more pedestrian-friendly environment.
Policy CI-3.5	Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.
Transit Network	



Goal: CI-4	A transit network that provides for safe and convenient access to essential goods and services, job centers, and healthcare facilities.
Policy CI-4.1	Coordinate with Victor Valley Transit Authority (VVTA) to provide residents and workers with accessible and convenient service between residential neighborhoods, commercial centers, educational facilities, employment nodes, and medical facilities.
Policy CI-4.2	Coordinate with VVTA to install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.
Policy CI-4.3	Support the development of a regional commuter rail line that connects residents with employment centers and essential services in San Bernardino and Los Angeles counties and to reduce traffic on Interstate 15.