

5. TRANSPORTATION & CIRCULATION ELEMENT

INTRODUCTION

The Growth Management Act (GMA) requires jurisdictions to demonstrate the availability of transportation facilities needed to accommodate the growth in traffic over the next twenty years. King County countywide planning policies (CPP) direct jurisdictions to develop a balanced transportation system as well as coordinated financing strategies and a land use plan to implement regional mobility in support of the Vision 2040 regional growth strategy. Since Medina is landlocked and expects minimal population growth in the foreseeable future, transportation issues are largely concerned with the maintenance and function of the existing street system and the impacts to this system from decisions made by larger land uses within as well as outside of the City.

EXISTING CONDITIONS

Medina's street pattern has developed as an extension of the original City plat, which was laid out as a basic grid. The exception to this pattern is the Medina Heights neighborhood, which has been subdivided such that the streets are more curvilinear and tend to follow the prevailing topography. Nearly all streets in Medina are two lanes with one lane in each direction, with one exception. Provisions for cyclists and pedestrians are made on some collector streets. Regionally oriented transportation facilities consist of a state highway (SR 520), a (WSDOT) bridge maintenance facility and a Park & Ride lot. SR 520 passes through Medina and connects the eastside communities with Seattle via the Evergreen Point Floating Bridge. There is an east-bound off-ramp exiting SR 520 at the north end of 84th Avenue NE along with a west bound on-ramp. A Park & Ride lot is located on the Evergreen Point Road lid, and provides pedestrian access to two public transit stops located in the median of SR 520.

Issues relevant to transportation in Medina primarily concern road surface maintenance, storm drainage, and sidewalks. Traffic volumes are expected to remain relatively constant considering Medina is fully developed and no substantive population increases are expected. There are no current plans or needs for new road construction.

Regional Transportation Facilities

The SR 520 corridor has recently been reconstructed to address increased traffic and transit demand. The updated corridor includes a number of design features intended to minimize the significant adverse impacts on the surrounding residential uses, public facilities (e.g., Fairweather Nature Preserve and the Bellevue Christian Elementary School), and the environment. These impacts include excessive noise, water and air pollution, and the unsightly appearance of the SR 520 corridor and the Park & Ride lot, which was unscreened. During periods of heavy rain, unfiltered drainage from the roadway produced an oil sheen on Fairweather Bay.

In hearings and meetings before the City Council and Planning Commission, the public has frequently asked that efforts be made to reduce the many impacts of the SR 520 corridor on the adjacent single-family residential neighborhoods and public facilities.

After extensive public process, the SR 520 corridor project included the following modifications:

- Landscaped lid, including green space, park and ride, and viewpoints across SR 520 on Evergreen Point Road to reconnect neighborhoods originally separated by construction;
- Sound walls with a stamped finish and vegetation screening to minimize transfer of noise and light from the roadways to the adjacent neighborhoods, parks, and school; and
- New stormwater facilities to collect and treat polluted road runoff.

Operation of and modifications to SR 520 could have very significant impacts on the adjacent residential and public uses within Medina. Unless effectively mitigated, activity along the corridor will increase air, noise and water pollution; increase light and glare; remove significant vegetation; increase the separation of neighborhoods within the City; adversely impact the shoreline, sensitive areas and wildlife habitat; and reduce the City's recreation resources.

Street Classification

Streets in Medina are classified on a three-tiered hierarchy developed by the Federal Highway Administration. The hierarchy reflects their functional characteristics (See Figure 7). They are described below in descending order.

Minor Arterial

- Interconnects and augments the Urban Principal Arterial system providing service to trips of moderate length at a somewhat lower level of travel mobility than a Principal Arterial.
- Distributes travel to geographic areas smaller than those identified with the higher system(s).
- Contains facilities which place more emphasis on land access than the higher systems(s) and offer a lower level of traffic mobility. Such facilities may carry local bus routes and provide intra-community continuity, but ideally should not penetrate identifiable neighborhoods.
- Provides urban connections to rural collector roads.

The spacing of Minor Arterial streets may vary from 1/8 to 1/2 mile in the central business district and 2 to 3 miles in the suburban fringes. The only street in this category is 84th Avenue NE between NE 12th Street and NE 28th Street. This street is utilized by Clyde Hill, Medina, and Bellevue residents to access SR 520 and as a route into downtown Bellevue.

Collector

- Provides both land access service and traffic circulation within residential neighborhoods, commercial and industrial areas.

- Differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination.
- Collects traffic from local streets in residential neighborhoods and channels it into the arterial system.

This category includes the following streets:

- Evergreen Point Road between Overlake Drive West and 78th Place NE,
- Overlake Drive between Evergreen Point Road and Lake Washington Boulevard.
- NE 12th Street between Evergreen Point Road and Lake Washington Boulevard,
- NE 24th Street between Evergreen Point Road and 84th Avenue NE, and
- Lake Washington Boulevard between NE 12th Street and the Medina city limit near 851 Lake Washington Boulevard.

Local Access

- Provides direct access to abutting land and access to higher order systems.
- Offers the lowest level of mobility and usually contains no bus routes.
- Service to through traffic movement usually is deliberately discouraged.

This category includes all those City of Medina streets that do not fall into the previous two categories.

Level of Service

Level of service (LOS) is generally defined as the ability of a roadway or intersection to carry the volume of traffic. LOS is typically measured using a six-tiered rating system that can be found in the *Highway Capacity Manual*. This system is used in the 2011 King County Regional Transportation Plan, and its use provides a level of consistency between adjacent communities and the County.

At the high end of the scale is an LOS of 'A,' where motorists experience a high level of freedom of operation and there is seldom more than one vehicle waiting at an intersection. The low end of the scale is an LOS of 'F,' which represents a forced flow of traffic and indicates a failure of the roadway or intersection to accommodate traffic volumes. The LOS ratings between 'A' and 'F' represent increasing degrees of traffic volumes relative to roadway configuration and waiting times at intersections. LOS ratings of 'D' and above indicate that there is reserve capacity on a roadway or at an intersection. For purposes of this Plan, the City adopts an LOS rating of 'C' for its arterials and an LOS rating of 'D' for intersections.

Adjacent cities employ criteria nearly identical to Medina's for LOS standards.

Medina residents currently enjoy relatively little traffic on internal streets due to the City's location, configuration, and land use mix. There are no east-west streets that offer through-routes for regional traffic except for SR 520. Since there is direct connection off of SR 520 to the internal street grid, there are no substantive impacts on neighborhood streets from motorists seeking alternative routes.

The average weekday traffic volumes for the four most traveled streets in Medina are estimated based on the *Institute of Traffic Engineers Trip Generation Tables* since there are no traffic counts on record for internal City streets. They are as follows (Table 3):

Table 3. Average Weekday Traffic Volumes

	Average Weekday (vehicles/day)	PM Peak Hour (vehicles/hour)
Evergreen Point Road	2000	210
NE 24 th Street	3500	365
NE 12 th Street	2400	250
84 th Avenue NE	6000	630

Major trip generators in Medina include the Overlake Golf & Country Club, Medina Elementary School, Bellevue Christian School, St. Thomas School, the Wells-Medina Nursery, and traffic related to personal services or special events for, and at, individual residences. Funerals, weddings, and church functions at the St. Thomas Church, located on the corner of NE 12th Street and 84th Avenue NE, affect the area within a radius of about three blocks. These occur during the regular work week and on weekends. Traffic associated with St. Thomas impacts the functioning of the adjacent intersection as motorists tend to queue up just past the intersection as they access the parking/pick-up area at St. Thomas Church and then make left turns out of this area to once again pass through the intersection. This contributes to congestion at this intersection during peak travel hours.

Many parents transport their children to and from the Medina Elementary and Bellevue Christian Schools and use neighborhood streets for access. Residents of the neighborhood just south of Bellevue Christian School have expressed concern over the number of vehicles that are using neighborhood streets to access the school.

Other than construction-related trips, Overlake Golf & Country Club accounts for the largest number of trips originating outside of the City. Traffic volumes fluctuate seasonally, between weekdays and weekends, and with Club-sponsored special events. The entrance to the Country Club is at the end of NE 16th Street off of Evergreen Point Road. It has been estimated that the Country Club accounts for 12% to 16% of the average daily traffic on Evergreen Point Road depending on the season.

Because the City is fully developed, it is unlikely that there will be a substantial increase in traffic on internal city streets due to additional residential development.

The traffic along 84th Avenue NE between NE 12th Street and SR 520 is likely to increase during peak hours, special events, or bad weather due to increases in some regional traffic using this route as a connection between SR 520 and downtown Bellevue. This may cause increased delays at the intersections at NE 12th Street, NE 24th Street, and Points Drive (SR 520 access). A traffic study conducted by the City of Medina that looked at effects of the SR 520 on-ramp at 84th Avenue NE showed no significant change in traffic.

There have been several “mega-homes” built in Medina over the last 25 years. These have increased traffic during construction and upon completion. There has been a tendency for these

homes to require increased personnel for the daily operations of the residences, and security requires numerous personnel to access the property. Parties, outdoor art displays, and other functions are regular occurrences. This creates temporary increases in traffic flow on Medina's neighborhood and arterial streets.

Public Transit

There is one King County Metro Transit bus route that provides direct service to City residents via 84th Avenue NE (route 271). Figure 7 shows the location of the transit stops. Route 271 runs north-south along 84th Avenue NE from SR 520 to NE 12th Street, and provides direct access to downtown Seattle, the University District, and downtown Bellevue.

The Evergreen Point Freeway Station at Evergreen Point Road and SR 520 provides direct access to 15 bus routes, including five Sound Transit routes and one Snohomish County Community Transit Route. The Park & Ride, located on the Evergreen Point lid above SR 520, includes parking for approximately 50 vehicles. Both the east-bound and west-bound stops are accessible from the Evergreen Point Road lid by pedestrian pathways.

As part of its Strategic Plan for Public Transportation 2011-2021, King County Metro developed service guidelines for the regional transit system. These guidelines are based on the density of jobs and households, the relative percentages of low-income or minority residents, and the number of employment and activity centers along a given transit corridor. Transit levels of service are then defined in terms of "Service Families," which describe the desired frequency of service during peak, off-peak, and night times. Route 271, which serves Medina along 84th Avenue NE, and the SR 520 corridor both support the highest level of all-day service. All but the southwestern portions of Medina are located within one-half mile of a transit stop on one of these two corridors, and all residences in the City are within five miles of the Evergreen Point Park & Ride.

Pedestrians and Bicycles

A pedestrian walkway system should be designed to provide residents with safe and convenient access to public facilities, services, and recreational amenities. This includes getting children safely to and from schools and parks and providing good pedestrian access to transit uses at the Evergreen Point Station and along the 84th Avenue NE/NE 12th Street/Lake Washington Boulevard corridor.

Since Medina was platted with large lots and developed at a slow, incremental pace, most streets were constructed without curb, gutter or sidewalks. Although residents have embraced the informal, natural setting that these streets provide, key streets have been retrofitted with sidewalks and pathways as more homes have been built and school enrollments have increased.

Sidewalks have been installed along portions of Evergreen Point Road, 77th Avenue NE, 79th Avenue NE, 81st Avenue NE, Overlake Drive West, NE 10th Street, NE 12th Street, NE 16th Street, NE 21st Street, NE 24th Street, NE 32nd Street, Lake Washington Boulevard, and 84th Avenue NE (see Figure 8). On all other streets, pedestrians must walk in the street or on the street shoulder.

Medina, Clyde Hill, Hunts Point, and Yarrow Point have created a walking path, referred to as the Points Loop Trail. It utilizes the asphalt-paved path that is adjacent to the SR 520 roadway, and

meanders through Medina and Clyde Hill (see Figure 8 for route through Medina). This trail has scenic and recreational attributes that, it is hoped, will be enhanced as time goes by. A key link in this route is the “Indian Trail” that occupies the unopened portions of 77th Avenue NE. Future efforts to enhance connectivity between the Points Loop Trail and other regional trails should be encouraged.

Popular City cycling routes include Lake Washington Boulevard, 84th Avenue NE, Overlake Drives East and West, NE 12th Street, Evergreen Point Road, NE 24th Street, and the SR 520 pathway due to their regional connectivity and scenic qualities. Of these streets, only 84th Avenue NE features bike lanes. NE 24th Street features striped wide curb lanes that function somewhat as bicycle lanes, but are not officially designated as such since they are less than the standard bicycle lane width of 5 feet. Cyclists share the road with vehicles (and sometimes pedestrians) on Lake Washington Boulevard, Overlake Drives East and West, NE 12th Street, and Evergreen Point Road. Lake Washington Boulevard and portions of Evergreen Point Road contain relatively wide shoulders and little or no on-street parking, making these roads safer for cycling. The SR 520 floating bridge replacement features a separated bicycle path. The path connects to the Points Loop Trail and facilitates bicycle travel from Medina to Seattle and other regional trails across Lake Washington.

Cyclists share the roadway with vehicles on all other streets. Most of these streets have minimal traffic and low travel speeds making them relatively safe for cyclists.

Nearby Air Facilities

Nearby Seattle-Tacoma International Airport provides air transportation for Medina residents.

Puget Sound Air Quality Attainment Zone

The City of Medina is located within the Puget Sound Air Quality Attainment Zone specified in the Washington State Clean Air Conformity Act. This Act is intended to implement the goals and requirements of the Federal Clean Air Act Amendments. Medina is committed to participating in the regional efforts to attain reduction in the criteria pollutants specified in the Act.

TRANSPORTATION AND CIRCULATION PLAN

Consistent with the Growth Management Act (GMA) and the King County CPPs, Medina’s transportation plan strives for a balanced transportation system coordinated with the land use plan. Since Medina is landlocked and expects minimal population growth in the foreseeable future, the transportation plan largely concerns maintenance and function of the existing street system. The current Six-Year Capital Improvement Plan (see Appendix B) includes the Transportation Improvement Plan and identifies a list of projects the City will undertake to improve selected roadways. The improvements involve a combination of surface improvements, sidewalks, and storm drainage improvements. Subsequent improvements to Medina’s streets should continue to focus on maintenance, storm drainage improvements (see Figure 11), and pedestrian improvements (see Non-Motorized Facilities below and Figure 8 for proposed improvements). All proposed improvements should incorporate recommendations in the City’s Landscape Plan and the Community Design Inventory.

Public Transit

The continuation of public transportation by King County Metro Transit is essential to a balanced circulation system for the City. The Evergreen Point Park & Ride is an important transit resource and should be maintained and enhanced, when possible. The City will continue to encourage transit use by prioritizing those improvements that enhance multimodal access to transit facilities. The bus routes should continue to utilize arterial streets. The location of transit stops should be periodically reviewed by the City Engineer and Planner to assure consistency with street design standards.

Non-Motorized Facilities

The City's Six-Year Transportation Improvement Program includes five non-motorized transportation improvements, including sidewalk repairs on four separate sidewalks, and a new pathway on the south side of NE 32nd Street from Evergreen Point Road on 80th Avenue NE.

Several other sidewalk/trail improvements may be considered to enhance pedestrian access to schools, parks, transit, recreation and fitness, community facilities, and services.

Where sidewalks or trails are installed, they should be designed and landscaped in accordance with the Landscape Plan, and public input.

Signage for the Points Loop Trail will be maintained and, where appropriate, enhanced to educate the public and encourage use of the trail.

Financing

The Growth Management Act requires that transportation related provisions of the comprehensive plan address the financing of local transportation systems. Since incorporation, the City's built-out nature and stable land uses means only minimal fluctuations in population have occurred, requiring only minor modifications to the City's transportation system. The result is that financing needs for transportation are principally for maintenance of the existing system and adding improvements when new funding opportunities arise.

The City uses Real Estate Excise Tax, Motor Fuel Tax, general revenue taxes and grants to fund maintenance activity. In 2014, the City collected \$1,213,962 in Real Estate Excise Tax and \$61,882 in Motor Fuel Tax to fund \$695,163 worth of transportation system maintenance and improvement projects. The City does not anticipate a revenue shortfall in the next 20 years to fund maintenance of its road network. In the event revenues in any given year are short, the City has the options of adding new sources of revenue, increasing the amount of revenue from existing sources, or reducing or deferring proposed projects.

GOALS

- T-G1 To maintain existing roadway surfaces.
- T-G2 To enhance pedestrian and bicycle access throughout the City.
- T-G3 To minimize transportation-related impacts of public facilities and uses on adjacent residential uses.

- T-G4 To minimize impacts of regional transportation facilities on adjacent residential uses and the City as a whole.
- T-G5 To maintain and enhance access to public transportation.
- T-G6 To maintain and enhance the informal landscaped character of the City’s public streets.
- T-G7 To maintain and/or improve local and regional air quality.

POLICIES

- T-P1 The City should provide street repairs as necessary to maintain safe driving and biking surfaces.
- T-P2 The City should prioritize pedestrian improvements that provide safe and convenient network of pedestrian access throughout the City, including access to and from schools, parks, transit, and community facilities.
- T-P2.5 Pedestrian and nonmotorized improvements should be designed and prioritized to improve pedestrian and nonmotorized safety.
- T-P3 The City shall seek to provide pedestrian improvements in conjunction with stormwater drainage improvements, when desirable.
- T-P4 Where sidewalks, trails or pathways are installed, they shall be designed and landscaped in accordance with the Landscape Plan, and public input in order to maintain the City’s natural and informal character.
- T-P5 The City shall seek to maintain and enhance the Points Loop Trail within the City.
- T-P6 The City shall implement transportation improvements as needed to maintain adopted levels of service for local streets through the implementation of a Six-Year Transportation Improvement Plan. The Transportation Improvement Plan shall be periodically updated to reflect the current needs of the community.
- T-P7 The City shall encourage the development of a bicycle/pedestrian path in conjunction with the improvement/ expansion of SR 520 and the Evergreen Point Bridge to connect to and enhance key non-motorized routes.
- T-P8 The City shall work with WSDOT, city residents and other groups, stakeholders and agencies to develop mitigation measures that may be implemented as part of any SR 520 improvement/expansion project. The City shall seek an overall reduction of impacts, including measures such as:
 - Noise reduction measures,
 - Landscaped lids and open space,
 - Landscaped buffers,
 - Protection of Fairweather Nature Preserve and Park,
 - Enhanced motorized and non-motorized local connectivity,
 - Water and air quality improvements, and
 - Overall environmental protection.

- T-P9 The City shall continue to be involved in regional transportation discussions and coordination.
- T-P10 The overall efficiency of the SR 520 corridor should be increased by emphasizing its use for public transportation and by providing incentives for multiple occupancy in private vehicles and, at a minimum, retaining the current number of transit stops.
- T-P11 The City shall seek to maintain and enhance access to the Park & Ride lot.
- T-P12 The City shall continue to work with state, regional, and local agencies and jurisdictions to address those transportation issues affecting air quality attainment.
- T-P13 The City shall promote public education efforts aimed at reducing transportation related activities that increase air pollution.
- T-P14 The City shall consider the air quality implications of new growth and development when making comprehensive plan and regulatory changes. When planning highway, street, and utility line extensions or revisions, the City should consider current state and federal air quality standards and possible increases in emissions as a result of such extensions or revisions.
- T-P15 The City adopts the FHWA system of street classification.