The transportation element of the Plan is to guide transportation decisions in the Ten Mile Interchange Area. It was developed concurrently with the Land Use Design Elements and has been designed to:

- preserve the integrity of the arterial road system and the proposed Ten Mile interchange over the long-term;
- provide for the use of public transit, bicycling, walking and carpooling, as alternatives to single occupancy vehicles;
- enhance pedestrian and bicycle mobility and accessibility;
- support new development in accordance with the Land Use Element by emphasizing the importance of developing activity centers, housing and attracting key employers that will benefit the City and the area;
- create transportation infrastructure and promote land use patterns that encourage the sustainable use of resources and reduces demands on natural resources;
- minimize the negative impacts of transportation on existing and future neighborhoods; and;
- minimize the demand for automobile parking, without negatively impacting development opportunities.

**The Proposed Street Network**

The proposed street network is composed of arterials, collectors and local streets as shown on the Transportation System Map. The map identifies proposed arterials, collectors and key local streets that provide connections to existing neighborhoods. Generally, local streets are to be planned and designed by developers based on the various design considerations provided in the Ten Mile Interchange Specific Area Plan, while the arterial and collector systems should be planned, designed and built in partnership with the City, ITD, ACHD and the private sector.

**Traffic and Interconnected Streets**

Establishing a sound and effective transportation system for the Ten Mile Interchange Area will involve significant coordination among the various interested parties, as well as the design considerations that make streets effective for pedestrians, bicycles and motorists. To optimize the network’s performance for local and through traffic, special consideration must be paid to connectivity, design, access control and road classifications.

**Connectivity**

The absence of connectivity impedes local circulation and forces motorists to travel on major highways, resulting in increased traffic volumes and congestion on major roadways and creating an environment that discourages pedestrian and bicycle travel.

The street layout proposed for the Ten Mile Interchange Area enhances connectivity and maximizes the efficiency of the transportation network, facilitating local and regional circulation. The plan presents a system of streets and paths with multiple routes and connections serving origins and destinations; providing choices for pedestrians, bicyclists, and automobiles.

The proposed connectivity within the Ten Mile Interchange Area will allow greater access for fire, medical, and law enforcement as noted by emergency providers during the planning process. Connectivity will reduce out-of-direction travel and vehicle miles traveled (VMT) and enhance accessibility between various modes minimizing transportation impacts on air quality.

The proposed street network, design and access policies results in the following benefits:

- More direct routes to more places and with shorter trips
- More routes to choose from means congestion can be relieved
- Direct routing encourages walking and biking
- Connected neighborhoods foster a greater sense of community
- School bus routes for children are safer and shorter
- Emergency service response times are shorter
- Roadway maintenance is facilitated
- Costs for public transportation are decreased

**Designing and Building the Required Network**

Streets should interconnect as much as possible, and streets within one development should connect with streets associated with adjacent developments. Cul-de-sacs are permitted only where topographic, environmental conditions, or exterior lot-line geometries permit no practical alternatives for connectivity. Street stubs should be provided for connections to future development in adjacent vacant lands.

All streets should be constructed in accordance with the design element set forth in this Plan and built to the highest standards of acceptable engineering practice. Streets should be maintained for public access, whether by easement or public dedication. Cilts and gated streets are strictly prohibited. Rear lanes and alleys should be privately maintained.

Blocks within the Ten Mile Interchange Area need not be regular in size or form, as long as the primary requirement for an interconnected street network is met. As a rule of thumb, the maximum perimeter of a block should be 2,000 feet. Blocks that include central parking structures should be 3,000 feet. This sizing allows the parking structure to connect to a variety of uses and structures. Even areas designated for surface parking should fit within a block pattern and should not be built in a way to disrupt the pattern of longer term development.

**Access Control**

How and where street access is allowed is one of the greatest influencing factors on the overall performance of streets. Direct access to properties must be balanced with the use of a thoroughfare to move traffic. The Ten Mile Interchange Specific Area Plan has proposed a complete network of arterial and collector streets to ensure reasonable connectivity throughout the area and support the development of a local street system in association with the development of individual properties.

Based on the proposed street network and in order to facilitate traffic and optimize performance, direct property access to arterial streets is prohibited. In addition, existing individual accesses should be eliminated as the road network is established and other options for access become available. Access to arterial streets should occur via the collector road system.
Functional Classifications

Streets and highways serve two separate and conflicting functions, one to carry traffic, and the other to provide access to abutting property (land use). The more traffic a road carries, the greater the difficulty in accessing property directly from the road. At the same time as the number of access points along a road increases, safety is compromised and speed limits must be lowered, reducing the traffic carrying capacity of the street or highway. Streets and highways are classified by function, and range from roadways with the sole purpose of carrying traffic to roadways that primarily provide access to abutting property. Following is a generally accepted classification and functional characterization of highways and streets:

- Freeway/Expressway: A fully access-controlled highway designed for high-speed travel with the sole purpose of facilitating non-stop traffic flow without obstruction from cross traffic. Access is not provided to abutting property, and access is only provided to other streets or highways at grade-separated interchanges.
- Principal arterial: A street or highway designed and given preference to carry traffic, and not providing access to abutting property. Cross traffic is accommodated at at-grade intersections with local streets. No signals are provided. The primary purpose of the collector is to serve short length neighborhood trips and to channel traffic from collectors and local streets to principal arterials or expressways.
- Collector street: A street designed to carry traffic and provide limited access to abutting property. Cross traffic is accommodated by at-grade intersections without signals for streets with low traffic levels. The primary purpose of the minor arterial is to serve moderate length neighborhood trips and to channel traffic from collectors and local streets to principal arterials or expressways.
- Minor arterial: A street or highway designed to both carry traffic and provide very limited access to abutting property. Cross traffic is accommodated by at-grade intersections without signals for streets with low traffic levels.
- Local street: A street or rural road designed to provide access to abutting property and only incidentally channel traffic short distances to collectors or minor arterials.

Complete Streets

A complete street is defined as a street that works for motorists, bus riders, bicyclists, and pedestrians, including people with disabilities. The Ten Mile Interchange Specific Area Plan incorporates the concept of complete streets to achieve equality of convenience and choice among modes and as a tool to reduce isolation and dependence for those in our community that are not able to drive. Under the Plan, streets designed to serve all users become the norm. Bicycling and walking facilities will be incorporated into all streets unless exceptional circumstances exist. Exceptions include roads where bicyclists or pedestrians are prohibited by law, where the costs are excessive, or where there is clearly no need.

The following lists features that should be considered as a starting point for each street:
- sidewalks
- bike lanes
- refuge medians
- bus pullouts
- special bus lanes
- raised crosswalks
- audible pedestrian signals
- sidewalk bulb-outs
- street furnishings
- on-street parking

Design-Related Classifications

The following design-related classifications should be used as a tool in defining the appropriate design components of streets in the Ten Mile Interchange Area:
- Primary streets are intended for considerable pedestrian activity and serve as civic spaces. These streets are important, both functionally and psychologically, and should be designed and constructed to high standards. These streets are destinations in and of themselves. No auto-oriented uses (i.e., gas stations, drive-throughs, etc.) are allowed along a primary street.
- Collector streets are important, both functionally and psychologically, and should be designed and constructed to high standards. These streets serve moderate length neighborhood trips and provide limited access to abutting property. Cross traffic is often channelled from collectors and local streets to principal arterials or expressways.
- Principal arterials are designed and given preference to carry traffic, and not providing access to abutting property. Cross traffic is accommodated at at-grade intersections with local streets. No signals are provided. The primary purpose of the collector is to serve short length neighborhood trips and to channel traffic from collectors and local streets to principal arterials or expressways.
- Minor arterials are designed to both carry traffic and provide very limited access to abutting property. Cross traffic is accommodated by at-grade intersections without signals for streets with low traffic levels. The primary purpose of the minor arterial is to serve moderate length neighborhood trips and to channel traffic from collectors and local streets to principal arterials or expressways.
- Freeways and expressways are fully access-controlled highways designed for high-speed travel with the sole purpose of facilitating non-stop traffic flow without obstruction from cross traffic. Access is not provided to abutting property, and access is only provided to other streets or highways at grade-separated interchanges.

In the case of collectors, the local road system should get priority in intersecting the collector road system and generally direct access to individual properties should be limited and widely spaced with local road access taking priority.

Street Classifications

Streets in the Ten Mile Interchange Area have both a functional classification (e.g., arterial, collector, local, etc.) and a design-related classification. All proposed streets should be classified in both ways as a means of balancing the design considerations for pedestrians and motorists. In combination, these classifications should help to ultimately establish the design character of the adjacent frontages and help to determine how the features of each street should be organized and what elements should be specifically apparent.

The following design-related classifications should be used as a tool in defining the appropriate design components of streets in the Ten Mile Interchange Area:
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- Freeways and expressways are fully access-controlled highways designed for high-speed travel with the sole purpose of facilitating non-stop traffic flow without obstruction from cross traffic. Access is not provided to abutting property, and access is only provided to other streets or highways at grade-separated interchanges.
• Secondary streets lead to and connect with the primary streets. They are intended to carry both vehicular and pedestrian traffic but are not destinations in the same way as primary streets. To some degree, most design standards described in these guidelines apply to secondary streets. Some auto-oriented uses can be found along secondary streets, although these must be designed and configured as to provide the least degree of interruption to pedestrian flow within activity centers. Streets that are primarily residential in character can be secondary streets.

• Tertiary streets tend to be service routes that support the functioning of the primary and secondary streets. These are designed primarily for vehicular use but should make accommodations for pedestrians. Auto-oriented uses should be located adjacent to tertiary streets. Alleys are an example of a tertiary street.

Street Design

Streets should be designed and sized to optimize pedestrian comfort and to facilitate slow-moving vehicular traffic. It is desirable that lanes on roads and streets be 11 feet in width, with the exception of those lanes closest to the intersections with Franklin and Ten Mile. In these instances, lane widths can increase to 12 feet in width from the point of the intersection with the arterial street to the point of nearest intersection with another street or road or access point.

Streets should include sidewalks, walkways or pathways on both sides throughout the Ten Mile Interchange Area. Exceptions are those areas where functions and dedicated use spaces fall predominantly on one side of the street. In these cases, sidewalks, walkways or pathways should be included on the dominant side of the street.

Street Sections

Several street types were conceived through the planning process for specific use and conditions based on projected vehicular and pedestrian usage, desired parking conditions, specific physical conditions, public emergency access, and streetscape character.
Street Geometries

All intersections should be designed to occur as close to 90° as possible. No streets should intersect at an angle of less than 60°. To facilitate effective and safe pedestrian movement, the curb radius at intersections must be minimized. At no point should the curb radius at an intersection be greater than 25 feet. Within the core pedestrian areas, the curb radius should be 15 feet. The exception to this requirement is at the intersection of arterial and collector streets.

Proper sight lines must be maintained at all intersections. Non-essential signs, vehicle parking and/or street trees are prohibited within the box created by the intersection of property lines at all four corners of a street intersection. One street light per corner is permitted within this box. Standard 6-inch vertical curbing is required on all streets. Drainage should be provided using close curb and gutter systems on all streets.

Elements of the Street Section Beyond the Roadway Edge

The plan offers recommendations for the widths and general configuration of street. The plan also suggests a variety of treatments and activities that should be allowed or be placed in the right-of-way as part of the streetscape beyond the edge of the roadway. Typical dimensions for carriage strip zones, clear walk zones, encroachment zones, and café spaces are provided. The definitions and dimensions for each are based on several factors including anticipated levels of activity, existing and planned land uses, right-of-way constraints, and position within the larger network of streets and public spaces. A description of the purpose and design treatment of each of the streetscape areas follows.

Carriage Strip

The carriage strip exists as the space adjacent to the vehicular travel lanes within which is placed a variety of elements and amenities. Trees are the primary element of the carriage strip zone and can be located in tree pits, grates, planters, or planting strips depending on the level of activity of the streetscape and associated street. An 8 foot wide carriage strip is typical; however, in constrained conditions, tree grates should be used to gain additional circulation space. In these cases, strips as narrow as 4 feet may be used. Light fixtures, street signs, trash receptacles, benches, bicycle parking loops, and directional and interpretive signs are the primary elements that typically exist in the carriage strip. Rhythm and placement of these components aid in maintaining a pedestrian scale, provide information for pedestrians, and create a comfortable and safe environment. The carriage strip includes the tree lawn.

Clear Zone

Next to the carriage strip zone is an area known as the pedestrian clear zone. This is defined as an unobstructed area serving as circulation space for pedestrians. The plan recommends a minimum 6 foot wide clear zone allowing for the free flow of people along sidewalks.

Encroachment Zone

Shopfronts, blade signs, outdoor displays, awnings/canopies and café space are components of the streetscape that can extend beyond the build-to line. These elements help define the character of an area, offer shelter from sun and rain, and provide visual interest to both pedestrians and motorists.

Café Space

Café spaces provide places for both active and passive social interaction and they add visual appeal, variety and interest to the streets. The plan recommends the provision for sufficient sidewalk space to accommodate cafés generally along the frontages facing Main Street. Movable public seating and newsstand and retail kiosks could be placed in these spaces to encourage more daytime use independent of an adjacent restaurant and frame the street wall better.
Ten Mile Sections

Street Section A

Section A represents a modified 4-Lane Parkway to enhance the look and feel of Ten Mile Road and to provide additional buffers to adjacent properties. The Parkway is designed to provide rapid and relatively unimpeded traffic movement throughout the area and carry high volumes of traffic to mixed use and employment centers. The Parkway serves as an arterial road and access is restricted to collector streets. Buildings should address the street but should be set back some distance from the roadway edge to provide wide tree lawn and detached trail to provide security to the pedestrians and bikes. This street section is the primary gateway corridor in the Ten Mile Interchange Area. A tree lawn or planting strip should be provided in all areas, as well as a landscape median. Streetlights should be located in the tree lawn area and should be of a pedestrian scale while street lights in the median should be designed to meet vehicular needs.

The following design standards are recommended:

- Wet utilities should be located within the paved area. Water and wastewater lines may be placed in the center of the same street with a 10 foot separation.
- Gas lines are commonly located in the paved area while dry utilities are located back of the curb in the dry utilities corridor.

Street Section B

Section B represents a typical 4-Lane Parkway. Parkways serve two functions. The Parkway can provide rapid and relatively unimpeded traffic movement throughout the area and carry high volumes of traffic to mixed use centers. In this capacity, Parkways serve as arterial roads and access is restricted to collector streets. Buildings should address the street but be set back some distance from the roadway edge to provide for a tree lawn and detached sidewalk to provide security to the pedestrian. Parkways may also serve as the entry/spine street portion of a collector that provides the main access from arterial streets, including right-in/right-out and serves as a focus of activity for large mixed use or employment centers. As such, they serve as gateways to these areas and entry point features should be located within the right-of-way. A tree lawn should be provided in all areas as well as a landscape median. Streetlights located in the tree lawn area and should be of a pedestrian scale while street lights in the median should be designed to meet vehicular needs.

The following design standards are recommended:

- Wet utilities should be located within the paved area. Water and wastewater lines may be placed in the center of the same street with a 10 foot separation.
- Gas lines are commonly located in the paved area while dry utilities are located back of the curb in the dry utilities corridor.

Street Section C

Section C represents the Major Collector Streets. These streets provide access from adjacent arterial streets into the employment areas. Buildings on these streets are set back from the street at some distance generally behind a detached sidewalk. The sidewalk may be widened in some cases to extend to the front of commercial retail or higher density residential buildings. A tree lawn should be provided in all areas. The following design standards are recommended:

- Streetlights should be located in the tree lawn area and should be of a pedestrian scale.
- A 5 foot dry-utilities corridor should be provided along both sides of the General Collector Street curb. The corridor may not be required if all dry utilities are located in an alley or other street.
The Plan

Intersection of Ten Mile Road and Franklin Road

(Representative diagram, not intended for engineering purposes--Intersection already designed by ACHD)

- Both wet utilities may be located in the street. If an alley is provided, one wet utility may be placed in the alley, subject to City approval.
- Streetlights should be placed in the dry utilities corridor on either side of the street.
- Street furnishings are encouraged along commercial and high density frontages

Street Section D

Section D represents the Residential Collector Street. These streets serve the local access needs of residential, live/work, and commercial activities within a residential neighborhood or mixed use residential area. Buildings on these streets have limited setbacks behind the sidewalk and a tree lawn is provided. Generally, frontage by detached single-family homes is discouraged in favor of rowhome, townhome and higher density residential development. On-street parking is also allowed. The following design standards are recommended:

- A 5 foot dry-utilities corridor should be provided along both sides of the Residential Collector Street curb. The corridor may not be required if all dry utilities are located in an alley or other street.

Street Section E

The Minor Collector Streets serve as the primary retail streets, and their character is pedestrian-oriented and defined by street-level storefronts. Buildings on these streets are built to the sidewalk. The pedestrian experience is enhanced with 12 foot-wide sidewalks, street trees in wells, and pedestrian-scale lighting. Ample on-street diagonal parking supports the businesses within the Lifestyle Center and in Mix Use Commercial area. This section may be modified to allow parallel parking as a local section in these areas.

The following design standards are recommended:

- A 5 foot dry-utilities corridor should be provided along both sides of the Minor Collector Street curb. The corridor may not be required if all dry utilities are located in an alley or other street.

Intersections

Proposed Intersections with Arterials

The development of the land around the Ten Mile Interchange will impact traffic in the area. Preliminary investigations show that the interchange will function acceptably at build out based on the proposed land use allocation and development densities. The Ten Mile Interchange Specific Area Plan proposes ten new intersections onto the arterial network: two on Ten Mile Road, five on Franklin Road, and three on Black Cat Road. In addition, south of I-84, Overland Road will be relocated to the south. Depending on the future configuration of McDermott Road, intersections may be required with McDermott Road to continue the collector road system to the west.

The intersections onto Ten Mile Road are of primary concern, as there is less flexibility in their placement and configuration due to their relationship to the new Ten Mile Interchange. As a result, an additional level of analysis was performed for intersections onto Ten Mile Road.

Level of service calculations were performed for four intersections on Ten Mile Road including Ten Mile Road and Franklin Road, two new intersections onto Ten Mile Road, between Franklin and I-84, and at Ten Mile Road and Overland Road. For the purposes of this study Overland Road was on a new alignment that moved the intersection approximately 1500 feet south of its current alignment. Its current alignment stays open as a right-in, right-out only configuration. All existing intersections function at a peak hour LOS D or better in the design year.

Two new intersections are proposed onto Ten Mile Road that access the office, commercial, and residential cores of the Ten Mile Interchange Area. The southernmost intersection is approximately 1500 feet north of the highpoint of the new interchange design and is the main entrance into the activity.
center. Its configuration has two lefts, two through lanes, and a dedicated right turn lane on all four approaches. This is what ACHD refers to as their 7x7 intersection configuration, in the design year (2030) and upon buildout of the Ten Mile Interchange Area, at peak hour this intersection functions at LOS D. The performance of this intersection is enhanced by the single-point urban interchange design.

The intersection proposed immediately south of the Ten Mile Road and Franklin Road intersection is a right-in, right-out only configuration and functions at LOS B in the design year. The realigned intersection of Overland and Ten Mile functions at LOS C in the design year.

The proposed intersections in the Ten Mile Interchange Area try to establish a collector network that will reasonably serve the area. More importantly, only the collector accesses shown in the Transportation System Map will be permitted. No access to individual properties will be allowed from the arterial road system. With the exception of the identified arterial access points within the Ten Mile Interchange Area Plan document, the City of Meridian supports full access control for the arterials serving this part of the community.

Slip Ramps

One idea that was discussed at length for this project is the future use of slip ramps off of the proposed interchange ramp, or just to the east of the proposed central point of the new Ten Mile interchange. This would allow people to access the Lifestyle Center and employment center via the proposed underpass associated with the interchange design, without impacting the intersections on Ten Mile Road or the interchange ramp terminals. This could potentially prolong the life of Ten Mile Road, the interchange, and significant intersections by allowing traffic to access the area other than by using the interchange terminals and arterial access.

The slip ramp is not expected to be needed or desired for several years until the area develops. It is recommended that right of way for the improvement be preserved. The slip ramp should be funded entirely by development through extraordinary impact fees.

Curb Radius

To facilitate effective and safe pedestrian movement within the Ten Mile Interchange Area, the curb radius at intersections must be minimized. At no point should the curb radius at an intersection be greater than 25 feet (collector to collector or local to collector). Within the following areas, the curb radius should be no greater than 15 feet: Lifestyle Center areas, mixed use areas, and residential areas. In addition, the closest intersection to school sites in any direction should have a curb radius no greater than 15 feet.

Roundabouts

Roundabouts are encouraged at collector-collector street intersections. A roundabout is a circular intersection where traffic flows around a center island. Roundabouts are safe, efficient and less costly than traditional intersections. Since vehicles entering the roundabout are required to yield to traffic in the circle, more vehicles can move through the intersection with less delay than at signalized intersections. The only movement at an entry and exit of a roundabout is a right turn, thus reducing the potential frequency and severity of accident typically occurring during left turns and when traffic crosses an intersection in perpendicular directions. The unique one-way design of roundabouts also accommodates the turning radius of large vehicles, like semi-trucks and buses.

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Balancing Vehicle Circulation with a Pedestrian Friendly Environment

For the most part, both cars and pedestrians will use the same streets to get around in and through the Ten Mile Interchange Area. Streets are often designed with vehicular traffic first in mind, and so are concerned with the combination of moving and parking lanes within thoroughfares. Yet it is this same network of roads that constitutes the majority of the public realm available to pedestrians. As the shared setting for most buildings, the network must provide the potential for community interaction. As such, the connector system of roads set out here for the Ten Mile Interchange Area considers both vehicular capacity and pedestrian character.

Pedestrians respond to the combination of frontage and streetscape, but these alone cannot create a lively pedestrian environment. The velocity of vehicular movement should also be controlled. The Ten Mile Interchange Area network makes use of designs which slow the speed of vehicular traffic through the most pedestrian friendly areas. Traffic calming devices are used in addition to the posting of speed limits.
Public Transit Accommodations

Healthy commercial and employment activity centers need access by multiple modes of transportation. In addition to being pedestrian friendly, an activity center should be transit friendly. Transit can be a complementary part of the public realm—the street and the pedestrian zone—as described earlier. In addition, with residential being an important element of a lifestyle center, transit should be a true feature. An effective transit system can offer residents the opportunity to own at least one less car, thus reducing the required parking requirements.

Transit riders become pedestrians when they reach their destination. Therefore, the quality of the streetscape and pedestrian zones can actually encourage increased transit use.

At transit locations, the use of the pedestrian amenities—landscaping, pedestrian and landscape lighting, benches, and trash receptacle—should be coordinated with the shelter location and design.

Depending upon the specific design of the activity center, routing transit into the core area for patron drop-off should be considered. Transit can be an active feature of the urban landscape. In activity centers, shelters should be placed at transit stops.

Shelters offer visual identification to the transit stop, and they provide weather protection to patrons. The design of the shelters should be coordinated between the City, Valley Regional Transit, and ACHD ensuring architectural consistency with the general architectural theme of the activity center.

Streets as Public Spaces

Streets in the Ten Mile Interchange Area should be treated as a key component of the public open space. Streets should be maintained for public access whether by easement or public dedication. Closed or gated streets are prohibited. Access lanes and parking lots should be privately maintained.

Streets should be designed and constructed in accordance with the highest standards of acceptable engineering practice. Streets should be designed to facilitate mobility and safety for vehicles, bicyclists and pedestrians. As such, no street within an activity center should have an effective design speed of greater than 35 MPH. Local and Collector streets within the Mixed Use Commercial, Mixed Use Residential and residential areas should have an effective design speed of 25 MPH.

Streets should be designed to include appropriately selected street trees planted in a manner appropriate to their placement and function. Residential streets should provide for an appropriate street canopy designed to shade both street and sidewalk and serve as a visual buffer between street and the adjacent dwellings. Streets should also be equipped with street furnishings and other amenities depending on the specific location to help establish the sense of the outdoor room.

The Outdoor Room

Studies indicate that many of the best-loved urban spaces are those that produce the sense of being contained by the surrounding buildings. Architects and urban designers often speak of the ratio between the width of a street and the height of the buildings on either side of the street. A ratio of 1:1 is considered ideal in terms of creating a comfortable enclosure for the street. In cities such as NY and Chicago, the ratio of width-to-height can be as extreme as 1:10 or more; this creates the “canyon effect” that defines many dense urban centers. However, ratios of 2:1 or 3:1 can still create a comfortable sense of containment.

Landscaping

Trees, shrubs and other landscaping should be used to help define the connections between fronting sidewalks and walkways and the primary and secondary entrances to structures. These connections should be straight and direct and should not be interrupted by trees, shrubs or any form of landscaping.

Groundcover should be species appropriate to the local microclimate, should be contained in formal or informal beds, and should not rise to height of more than 12” above the adjacent grade. Shrubs and bushes should be species appropriate to the

These traffic calming factors include narrowing the lanes, providing parking lanes, the centerline radius, and the intersection curb radius. In addition to the conventional standards for speed movement, there are also standards for free-, slow and yield-movements that should be considered during design in the Ten Mile Interchange Area, including:

- **Speed Movement**: Thoroughfares designed so that vehicular velocities greater than 35 mph are perceived to be safe.
- **Free Movement**: Thoroughfares designed so that vehicular velocities are perceived to be safe at 30 mph and below.
- **Slow Movement**: Thoroughfares designed so that vehicular velocities are perceived to be safe at 20 mph and below.
- **Yield Movement**: Thoroughfares designed so that vehicular velocities are perceived to be safe at 15 mph and below. Vehicles stop to allow approaching vehicles to pass.

**Public Transit Accommodations**

Healthy commercial and employment activity centers need access by multiple modes of transportation. In addition to being pedestrian friendly, an activity center should be transit friendly. Transit can be a complementary part of the public realm—the street and the pedestrian zone—as described earlier. In addition, with residential being an important element of a lifestyle center, transit should be a true feature. An effective transit system can offer residents the opportunity to own at least one less car, thus reducing the required parking requirements.

Transit riders become pedestrians when they reach their destination. Therefore, the quality of the streetscape and pedestrian zones can actually encourage increased transit use.

At transit locations, the use of the pedestrian amenities—landscaping, pedestrian and landscape lighting, benches, and trash receptacle—should be coordinated with the shelter location and design.

Depending upon the specific design of the activity center, routing transit into the core area for patron drop-off should be considered. Transit can be an active feature of the urban landscape. In activity centers, shelters should be placed at transit stops.

Shelters offer visual identification to the transit stop, and they provide weather protection to patrons. The design of the shelters should be coordinated between the City, Valley Regional Transit, and ACHD ensuring architectural consistency with the general architectural theme of the activity center.

**Streets as Public Spaces**

Streets in the Ten Mile Interchange Area should be treated as a key component of the public open space. Streets should be maintained for public access whether by easement or public dedication. Closed or gated streets are prohibited. Access lanes and parking lots should be privately maintained.

Streets should be designed and constructed in accordance with the highest standards of acceptable engineering practice. Streets should be designed to facilitate mobility and safety for vehicles, bicyclists and pedestrians. As such, no street within an activity center should have an effective design speed of greater than 35 MPH. Local and Collector streets within the Mixed Use Commercial, Mixed Use Residential and residential areas should have an effective design speed of 25 MPH.

Streets should be designed to include appropriately selected street trees planted in a manner appropriate to their placement and function. Residential streets should provide for an appropriate street canopy designed to shade both street and sidewalk and serve as a visual buffer between street and the adjacent dwellings. Streets should also be equipped with street furnishings and other amenities depending on the specific location to help establish the sense of the outdoor room.

**The Outdoor Room**

Studies indicate that many of the best-loved urban spaces are those that produce the sense of being contained by the surrounding buildings. Architects and urban designers often speak of the ratio between the width of a street and the height of the buildings on either side of the street. A ratio of 1:1 is considered ideal in terms of creating a comfortable enclosure for the street. In cities such as NY and Chicago, the ratio of width-to-height can be as extreme as 1:10 or more; this creates the “canyon effect” that defines many dense urban centers. However, ratios of 2:1 or 3:1 can still create a comfortable sense of containment.

**Landscaping**

Trees, shrubs and other landscaping should be used to help define the connections between fronting sidewalks and walkways and the primary and secondary entrances to structures. These connections should be straight and direct and should not be interrupted by trees, shrubs or any form of landscaping.

Groundcover should be species appropriate to the local microclimate, should be contained in formal or informal beds, and should not rise to height of more than 12” above the adjacent grade. Shrubs and bushes should be species appropriate to the
local microclimate, should be formally or informally arranged, and should not rise to a height of more than 36” above the adjacent grade. Where possible, landscaping should focus on water recapture in order to reduce run-off.

Street Trees
Trees should be species appropriate to the local microclimate. Trees with full canopies are encouraged as they can provide shade and protect windows and building interiors from direct sunlight. Street trees provide multiple benefits to the urban environment. They create shade, reduce glare, buffer wind and cleanse the air. Trees also help create a pedestrian-scale space and make streetscapes more acceptable to pedestrians. Without trees, streets are uncomfortable for pedestrians and, to a lesser extent, drivers, both physically and psychologically.

On retail frontage streets, trees have the most significant impact in making streets attractive to shoppers. Without street trees, pedestrians feel the heat, glare and pollution to a much greater extent. With them, the extreme conditions of a roadway are mitigated and shoppers can have a more pleasant experience.

A formal, rhythmic application of landscape design using trees of similar characteristics will help create a cohesive, unifying effect. However, since plant diseases and pests, such as Dutch Elm Disease and Pine Bark Beetle, can decimate areas where single species are planted, tree selection should include multiple species, alternating color, form and texture from block-to-block or within blocks, as long as a pattern is established that can be utilized.

General Street Tree Guidelines
There are many factors to consider when using trees in a streetscape. Right-of-way constraints, commercial uses (outdoor dining, etc.), utility locations (both buried and above ground), storefront sign/architectural visibility, and volume of pedestrian and vehicular traffic are all elements which will affect quantity, size and species of tree selection. Except where notable changes are desirable, such as indicating the location of a pocket park, etc., tree types should be the same on both sides of the street. Where high pedestrian volume occurs or is anticipated, tree grates or other means of facilitating pedestrian safety should be provided.

Tree Selection
As living elements of the street environment, tree species should be selected with care. Soil and air conditions, water, light, heat, maintenance and budget should all be addressed prior to selection of tree types. The selected species should have a local basis for endurance of air pollution, minimal maintenance and compacted/inferior soils. Street trees should be free of fruit and thorns to reduce maintenance and minimize potential harm to pedestrians.

For lower maintenance, trees should be strong wooded, disease and pest resistant, drought tolerant, single trunk and with a fairly long life expectancy. Tree irrigation, in most cases bubblers, is to be used on all street trees in commercial areas. The irrigation of trees should be developed in conjunction with a low-volume landscape irrigation design. Species selection should not interfere with commercial signs or traffic signals.

Tree Size
Planting size of trees is generally restricted by the area in which the trees will be located. Trees planted with tree grates or within tree wells will, of necessity be smaller than trees located on large lawn/planting areas. Trees with 3 inch caliper should be large enough to provide some shade at planting time and significantly more when they develop, assuming proper cultural/maintenance activities.

Tree Location
Tree location relates to specific individual locations and to locations relative to each other. The spacing should consider street lighting and other obstructions. Motorist visibility is critical and trees should not interfere with sight distance criteria. Trees should be spaced and located such that pedestrians have an unobstructed walking area of no less than eight feet, and preferably ten feet in width. Trees should be spaced far enough from building facades so as not to require excessive pruning.

Parking
Parking spaces, whether on-street or in dedicated lots, should be located proximate to the uses they intend to serve, but need not be immediately adjacent to these uses, as long as effective and accessible walkways are available to provide access to and from the lots. On-street parking counts against the parking requirement of the buildings that front onto the parking.

On-Street Parking
On-street parking is a key element of an active and vital place. Not only does on-street parking add significantly to the supply of needed parking spaces, it provides an additional layer of physical and psychological separation between cars moving along the street and pedestrians, shoppers, diners and others on the sidewalks. It provides direct access between motorists and stores, shops and restaurants. Metered, on-street parking also helps create a constant flow of activity as short-term visitors pull in and out of spaces along the main pedestrian routes.

On-street parking is encouraged throughout the Ten Mile Interchange Area, where appropriate. Such parking can include head-in parking, angled parking (60-degree), or parallel parking. Carefully integrated, on-street parking can absorb a significant amount of the minimum required parking spaces. The following forms of on-street parking may be allowed:

• Parallel parking is a pattern of parking whereby the vehicle is stored parallel to the curb line. Parallel parking permits a narrower street section and creates the most positive sidewalk experience of the possible patterns, but it requires a difficult driving maneuver and provides the lowest density of parking storage per linear foot of street frontage.

• Diagonal parking is a pattern of parking with the vehicle stored at an angle to the curb line. Diagonal parking creates the least positive sidewalk experience of the possible patterns, but it permits the easiest driving maneuvers and provides more parking than parallel parking.

• Head-in parking is a pattern of parking where the vehicle is stored perpendicular to the curb line. Head-in parking requires the widest street section and creates the greatest supply of on-street parking.

Parking Lots
Parking lots should not dominate the frontage of pedestrian-oriented streets or interrupt key pedestrian routes. Ideally, parking lots should be located behind buildings or within the interior of blocks. Less ideally, lots can be located beside the structures they serve.
The Plan

Transportation

Screened by Plantings
All parking lots visible from public thoroughfares should be screened by plantings or walls or a combination of the two. No parking lots should front on the mixed use streets within the Lifestyle Center or along primary streets within commercial activity centers.

Multifamily Parking
All multifamily residential off-street parking should be located at the rear of the lot. For single-family residences, in cases where there is alley access, parking should be located at the rear of the lot. In situations where lots are front loaded, all parking should occur to the rear of the plane of the front façade.

Parking Lot Sizes and Subdivisions
Surface parking lots should be visually and functionally subdivided into manageable parking plazas. Parking lots should be sized to be as small as possible. Where possible, lots should be one-bay in width.

Parking Lot Landscaping
Parking lots should be landscaped. Ideally, parking areas will contain additional trees both in tree islands within the lots and as buffering around the perimeter of the lots. A row of cars should not include more than 12 vehicles without interruption by a tree island, nor more than 24 cars without a connecting drive aisle.

Civics Space and Drop-Off Lanes
Parking lots should be located away from civic spaces. For convenience and to meet the needs of the handicapped, primary civic and community structures should include dedicated drop-off lanes adjacent to the primary entry points. These should be sized as to meet the anticipated needs of the facility, but should not be oversized.

Parking Drives
Drives providing ingress and egress to and from parking lots should be a minimum of 20 feet in width. For lots that will receive considerable truck traffic, entry and exit lanes can each be 12 feet in width, for a combined width of 24 feet. All off-street parking lots should allow for and facilitate the use of emergency, sanitation, utility and delivery vehicles.

Parking and Adjacent Structures
All off-street parking lots should allow a minimum of 5 feet between the edge of the paved parking lot surface and the nearest structure. The space between an off-street parking lot and adjacent structures must include a sidewalk that provides access to these structures. This sidewalk must be linked into the overall system of sidewalks, walkways and pathways within the commercial areas.

Shared Parking
Shared parking, whereby day/night and weekday/weekend schedules allow the parking to be shared by more than one use or building, is encouraged.

Pedestrian & Bicycle System
All buildings and open spaces must be easily and safely accessible to pedestrians and to bicyclists. Mixed Use Commercial and Mixed Use Residential areas must include an integrated system of sidewalks, walkways and pathways that provide access to all structures and spaces within a development.

Sidewalks, walkways and pathways must be constructed of a durable, non-skid hard surface—concrete or asphalt. Sidewalks, walkways and pathways are recommended to be a minimum of 5 feet in width and should be wider in all areas where significant amounts of activity are anticipated. These include the spaces around the entries to all publicly accessible buildings, as well as the major ingress/egress points associated with all designated public spaces.

No sidewalk, walkway or pathway within the Mixed Use Commercial and Residential areas should be located immediately adjacent to the curb. At a minimum, sidewalks, walkways and pathways should be separated from an active adjacent roadway by a planting strip that is recommended to be at least 4 feet in width. This strip should be treated as part of the overall landscaping design for the Mixed Use Commercial and Residential areas and can be expanded to include mature street trees or other landscape features.

The exceptions should be sidewalks within Mixed Use Commercial and Residential areas and sidewalks that are protected from adjacent traffic through on-street parking. In these examples, the sidewalk paving can extend to the street curb; however, such sidewalks should be at least 9 feet in width and should include provisions for the inclusion of street trees at regular intervals.

Bicycles
Bicycles should be permitted on all pathways within the Ten Mile Interchange Area. Bicycles should not be permitted on sidewalks or walkways. To create an integrated network for bicycle movement, the primary roadways within the Ten Mile Interchange Area should include dedicated bicycle lanes. Streets within the Lifestyle Center do not need to include dedicated lanes, but signs should be posted indicating that bicyclists are allowed on streets throughout the Lifestyle Center and in all commercial activity areas.

Bicycle racks should be provided proximate to the primary entries to all commercial structures and to the primary ingress/egress points to all designated public spaces. Such racks should be adjacent to pathways, roadways or streets, but should be outside any vehicular or pedestrian routes and should be sized to provide enough storage space for the estimated amount of usage.

Sidewalks
Sidewalks give pedestrians access along streets. Where possible, sidewalks should be detached from the curb. This provides room for street trees and other landscaping close to the curb. Concrete is the preferred material for sidewalks, although interlocking concrete unit paving and brick pavers may be utilized, particularly for accents. Sidewalk paving is an excellent way to unify a street. Over-designed patterns should be avoided as they may become dated and generally imply additional maintenance. Pattern and color of sidewalk paving should be unified throughout the Lifestyle Center and should avoid strong contrasts with surrounding paving.
Sidewalks can generally include three distinct zones:

- Building Zone
- Pedestrian Zone
- Streetscaping Zone

**Building Zone**

The Building Zone is that part of the sidewalk closest to the edge of the ROW. This zone generally fronts a building facade. Depending on the type of use within these fronting buildings, the width of this zone can expand or contract. Appropriate uses for the Building Zone include space for window shopping, free-standing signs, exterior displays, outdoor dining or isolated landscaping.

**Pedestrian Zone**

The Pedestrian Zone is that part of the sidewalk intended for uninterrupted pedestrian movement. The width of this zone should vary depending on the nature and amount of pedestrian activity to be accommodated on the sidewalk. The Pedestrian Zone along any street should be wide enough to easily accommodate the general daily maximum amount of pedestrian activity. In general, this zone should be at least 5 feet in width, and within areas with high levels of pedestrian activity this width can expand significantly. At no location should the Pedestrian Zone be less than 5 feet in width.

**Streetscaping Zone**

This is the zone of space immediately adjacent to the street curb. In general, it contains a wide range of streetscaping and furniture, including appropriately located street trees, streetlamps, signposts, mail boxes, seating, planters, kiosks, news boxes, garbage pails, transit shelters, and so forth. The width of this zone should be determined in part by the needs of the species of street trees planted along the sidewalk. Trees should never extend into the Pedestrian Zone, and the width of the tree grates will be determined by the type of tree planted within the Streetscape Zone. In general, the minimum width of a Streetscape Zone should be 5 feet. Away from the commercial activity centers, this entire zone will be treated as a Planting Strip and will not include any paving.

**Crosswalks**

Sidewalks, walkways and pathways should include dedicated crosswalks at the intersection with all streets within commercial activity centers. Such crossings should be as wide as the approaching sidewalk or walkway and should include visual and tactile distinctions from the surrounding pavement.

Changes in color, markings, materials, texture and surface are all appropriate for such location. These changes should not interfere with meeting the requirements for handicapped accessibility. If the walkways on either side of a crossing are of different widths, the crosswalk should match the width of the wider walkway.

Within the commercial activity centers, crosswalk materials and patterns can become an important unifying feature. The detailing of a crosswalk should always contrast with the immediate pavement on either side of the walk. The detailing of a crosswalk should vary in accordance with the importance of the intersection within the overall commercial activity center. The most intricate patterns should be used at key intersections within the commercial activity centers. Lesser patterns and/or materials can be used in other locations. At a minimum, a crosswalk should be distinguished from surrounding paving by the use of painted or thermoplastic striping. The following forms may be used:

- Painted lines on the street paving are the most inexpensive form of striping and are the most visible markings.
- Concrete paving can be used as a contrasting material in asphalt streets, but it must be augmented by painted or thermoplastic stop bars.
- Unit concrete pavers and brick pavers can be used sparingly for the most important intersection crossings. They are expensive to buy and to install and may require maintenance over the course of the material lifetime.
- Stamped concrete is acceptable for use in crosswalks, if constructed properly. Poorly constructed, stamped concrete walks are susceptible to cracking, chipping and overall deterioration.

**Street Furniture**

Street furnishings such as seating, newspaper racks, bollards, trash receptacles, bicycle racks and other elements are important to the functioning of an effective pedestrian environment. Such furnishings should be available throughout the commercial activity centers and included as part of a unified design.

Utility, comfort, safety and ease of maintenance are key considerations in the design and selection of street furnishings. Any furnishings placed within a commercial activity center should be of high quality, designed for significant outdoor use, and relatively easy to maintain.

In general, street furnishings should be located between the active roadway and the adjacent buildings or public spaces. In general, furnishings should be located closer to the street than to private structures. For streets with on-street parking, furnishings should be located no less than 30” from the curbline. On streets in which a travel lane is immediately adjacent to the sidewalk, furnishings should be located at least 42” from the curbline.
Street furnishings should never be located so as to interfere for pedestrian movement. At a minimum the outside edge of any furnishing should be located at least 12" from the outside edge of the implied pedestrian movement zone.

**Seating**
Seating surfaces should be between 16" and 18" high. Seating without a back should be a minimum of 16" in depth; seats with backs should be no less than 14" deep. Walls, ledges and steps to be used for seating should be between 12" and 20" high, and at least 16" wide. If a wall is designed for seating on both sides, the top of the walls should be at least 30" wide.

Seating, like all streetscape elements, should be durable, weather resistant, and comfortable. Sharp edges should be avoided at all costs. With the exception of movable chairs, seating should be permanently anchored and immovable. Seating should be located so as to afford occupants interesting views as well as a sense of psychological protection. Ideal views include active shop fronts, intersections, pedestrians or outdoor activities such as dining.

**Trash Receptacles**
Trash receptacles should be located for ease of pedestrian use and for relative ease of pickup by trash collectors. However, the locations should not be obtrusive and receptacles should never be located within the implied pedestrian zone of a sidewalk.

Receptacles should coordinate with the design of other street furnishings and be designed and sized to match anticipated use. Receptacles should be permanently attached and should include covered tops as well as sealed bottoms. Receptacles should include two pieces: The inner container for each collection of trash, and a low-maintenance outer container designed to coordinate with other street furnishings.

**Newspaper Racks**
All public streets and environments should be required to provide appropriate locations for newspaper racks. These racks should be easily accessible from primary pedestrian routes, without interfering with pedestrian mobility. Racks should be clustered into units that meet all of the demands for circulation and distribution within a single coordinated furnishing. The design and construction of such units should coordinate with the other elements of street furnishing within the commercial activity center.

Newspaper racks should be placed immediately adjacent to a building wall or between the walkway and adjacent street. In neither case should the racks come within less than 18" of the pedestrian zone of the walkway or sidewalk. Racks should be placed at least 30" from the curb. Racks should not obstruct the view of pedestrians or drivers.

**Mailboxes**
The location and placement of mailboxes is determined by the United States Postal Service. Locations should be coordinated with the USPS.

**Kiosks**
Kiosks make it easier to navigate the commercial activity center by providing visitors with street maps and highlighting destinations, tenants, and upcoming events. Kiosks may be located in the commercial activity center. They should be designed to provide a consistent style with the rest of the commercial activity center. Information displayed on kiosks must be current and updated to reflect changes in tenants or vendors, as well as upcoming events. Information kiosks should be strategically placed near parking areas to maximize visibility and accessibility to passing foot traffic.
Lighting

Exterior lighting should be used to provide illumination for the security and safety of entry drives, parking, service and loading areas, pathways, courtyards and plazas, without intruding on adjacent properties. Site lighting should be architecturally compatible and consistent in design between sites.

Fixture Design and Illumination Level

Light standards should be designed as a family of compatible fixtures, which relate to the architectural character of the buildings in a commercial activity center area. Site lighting should be provided at the minimum level (per City Standards) to accommodate safe pedestrian and vehicle movements, without causing any off-site glare. All regulatory requirements for lighting must be met.

Poles and fixtures should be architecturally compatible with structures and lighting on adjacent properties. Illuminate all intersections and perimeter public roads with similar poles and fixtures. Select and locate all lighting fixtures to shield or confine light spread within a site’s boundaries and to eliminate light directed towards the sky. To facilitate security, specify lighting levels that are adequate for visibility, but not overly bright. All building entrances should be well-lighted.

Decorative Architectural Lighting

Special lighting that accents building features and creates visual interest is strongly encouraged within the commercial activity centers, provided that design continuity is maintained among buildings.

Lighting fixtures mounted directly on structures may be allowed when utilized to enhance specific architectural elements or to help establish scale or provide visual interest. Integrate illuminators or fixtures used to light building mounted signs, building facades or pedestrian arcades, into a building’s architectural design. Consider highlighting entrances with art, terraces, and special landscape features.

Parking Lot, Pedestrian, Landscape Lighting

Parking lot lighting should be unobtrusive. Rather, it should provide safe light for orderly functions. The fixtures should be uniform in design and provide adequate lighting for all areas. Select metal halide lighting with a concealed light source of the “cut-off” variety to prevent glare and “light trespass” onto adjacent buildings and sites. Emphasize pedestrian ways through parking lots with lighting. Walkway lighting should be scaled to the pedestrian (10 feet-16 feet in height) and provide for safe passage particularly in areas which are dangerous, such as stairs, ramps, intersections, and underpasses.

The use of lighted bollards with incandescent or metal halide lamps or other low-level fixtures is encouraged to identify pedestrian walkways and drop-off areas at entrances to buildings. Emphasize pedestrian-to-vehicle intersections with low-level decorative streetlights. Landscape lighting should enhance and complement the landscape materials in the nighttime hours.

Conceal fixtures where possible (i.e., in trees, by landscape, behind rocks), control glare, and avoid extreme bright spots on the surrounding landscape.