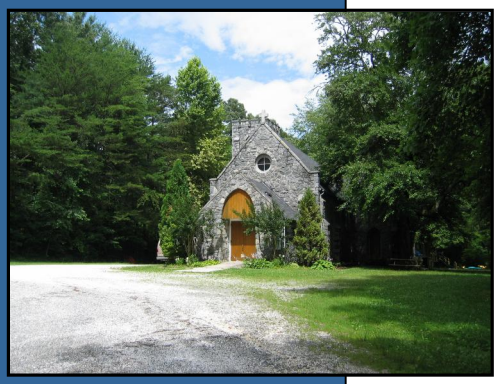
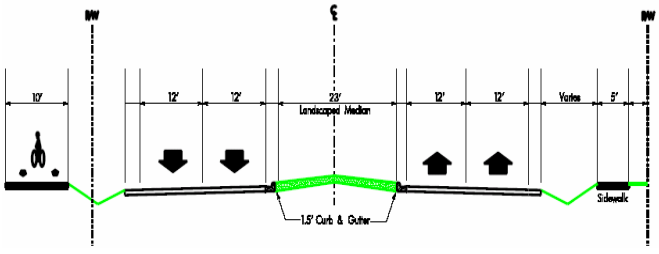
US Highway 64 East
TRANSPORTATION PLAN

Prepared for:
City of Hendersonville
Planning Department

Adopted:
February 3,2005





CONNECTIONS

CHOICES

CONVENIENCE

COMMUNITY

Kimley-Horn
and Associates, Inc.

The following report was prepared for the exclusive use of the City of Hendersonville, North Carolina as well as its designated agents, using information collected by Kimley-Horn and Associates, Inc, the City of Hendersonville Planning Department, Henderson County, and the North Carolina Department of Transportation.

The methodology used to complete the evaluation is believed to be consistent with current engineering practices and land use practices. The recommendations presented herein are based on a comprehensive review and analysis of the available data, direct observations, and application of engineering judgment.

This document remains the property of Kimley-Horn and Associates, Inc., and the City of Hendersonville. Comments and questions about this study can be addressed to:

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Acknowledgements

The US Highway 64 East Corridor Plan was developed by the City of Hendersonville and the Mixed-Use Design Committee. The project participants and primary authors include:

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BACKGROUND

US Highway 64 East (herein referred to as Highway 64) exists as an urban principal arterial on the Statewide Functional Classification System. The roadway is also designated as a major thoroughfare on the adopted Thoroughfare Plan of French Broad River Metropolitan Planning Organization (of which the City of Hendersonville is a member). Highway 64 was widened to a five-lane roadway between Fruitland Road and Howard Gap Road in 1999 by the North Carolina Department of Transportation (NCDOT).

With the widening of Highway 64, the City of Hendersonville took a proactive approach to address anticipated development by expanding the extraterritorial jurisdiction in February 1999. The expanded extraterritorial jurisdiction (ETJ) includes the area between Fruitland Road and Interstate 26. This section of roadway, recently widened by NCDOT, is more likely to develop, given the increased capacity of the roadway, ease of access, and availability of developable land. The ETJ includes the area between Clear Creek and Highway 64 to the north and Highway 64 and an estimated 300 to 1,300 feet to the south.

Like many other communities, Hendersonville is beginning to feel the effects of a sprawling suburban development pattern, which has increased congestion. The availability of developable land and ample roadway capacity has encouraged development on the peripheries of the community.

At the direction of the City Council, the Hendersonville Planning Department was instructed to initiate a study addressing development concerns in the expanded ETJ area of Highway 64, specifically the area between Interstate 26 and Fruitland Road. This area is referred to as the Highway 64 Corridor. The inherent relationship between transportation and land-use required the project to consider these topics simultaneously while promoting an interconnected development pattern with its own center.

In May of 2002, the City Council adopted the Highway 64 Corridor Plan (Corridor Plan). The adopted Corridor Plan outlined the physical characteristics of the highway including soil types, topography and its proximity to the Clear Creek Floodplain. An evaluation of the existing zoning by type and amount also was included in the Corridor Plan accompanied by an evaluation of existing infrastructure, including water/sewer and available transportation facilities. The Corridor Plan also outlined changes to the existing zoning that would discourage strip-type development similar to that along Highway 64 closer to town.

Perhaps the most significant component of the Corridor Plan was the establishment of a clear vision for the corridor that includes a synergistic mix of residential, commercial, and office development. The Corridor Plan outlined a strategy for implementing this vision via a new mixed-use zoning classification.

This new classification would encourage a balance of land uses along the corridor and allow for the development of residential, retail, and office development similar to a town center.

A proposed HMU zoning district classification is currently under review and is discussed in subsequent sections of this report.

The Corridor Plan also identified the need for a supportive transportation network and recommended *"The City should investigate the feasibility and encourage the development of a new road south of Highway 64 which will enable an interconnected system of streets, allow for local pedestrian and vehicular movement independent of the highway, and concentrate connections to the highway at controlled access points."* With this in mind, the City of Hendersonville has requested the development of a transportation plan for the Highway 64 Corridor. The resulting recommendations and strategies described within this Transportation Plan represent the collaborative work of the Mixed Use Design Committee, City Planning Staff, and consultant team members.

STUDY AREA & EXISTING CONDITIONS

The study area includes the section of Highway 64 west of Interstate 26 between Howard Gap Road and Fruitland Road. The total length of the corridor is approximately one mile. The bounding properties include a variety of land uses including commercial, residential and institutional. The primary land use is commercial.

Existing Highway 64

Highway 64 connects to smaller communities (such as Bat Cave and Edneyville) and is classified as a major thoroughfare on the adopted thoroughfare plan. The roadway has a posted speed limit of 45 mph and facilitates significant traffic volumes as one of three facilities with interchanges to Interstate 26. In 2002 the North Carolina Department of Transportation recorded an average daily traffic count of 29,000+ vehicles per day near the intersection with Howard Gap Road and 9,000+ vehicles per day near Fruitland Road. In addition, the corridor serves as a commercial corridor and functions as one of the major transportation spines for the community. Sidewalks are present only on the south side of Highway 64. Figure 1 indicates the study area, existing development, and traffic counts.

Existing Howard Gap Road

Located approximately 0.7 miles east of Interstate 26, Howard Gap Road is a two-lane, minor thoroughfare facility with unpaved shoulders. Howard Gap Road, a north-south corridor, connects the Green River community (south) and the Town of Fletcher (north) with Hendersonville and provides an alternative to Interstate 26.

Fruitland Road at

Fruitland Road serves as the eastern boundary of the study area and is considered a rural road with a two-lane cross-section. Near the intersection of Highway 64 and adjacent to North Henderson High School, Fruitland Road becomes a three-lane section with a center bi-direction continuous turn lane and one through lane in each direction.

A portion of the Highway 64 study area is situated in the 100-year flood-plain of the Clear Creek, the northern boundary for the study area. The floodplain width varies from 150 feet to 1,300 feet from the centerline of the creek. The floodplain is approximately 130 feet in width at the point of intersection between Highway 64 and Wolfpen Creek, a tributary of Clear Creek.

This significantly impacts the potential development pattern on the north side of Highway 64.

The Highway 64 corridor represents an area that is in transition from low-density residential and agricultural land uses to medium density residential and commercial land uses including new developments such as Brittany Place and Wolfpen Creek, as well as the Highland Square shopping center.

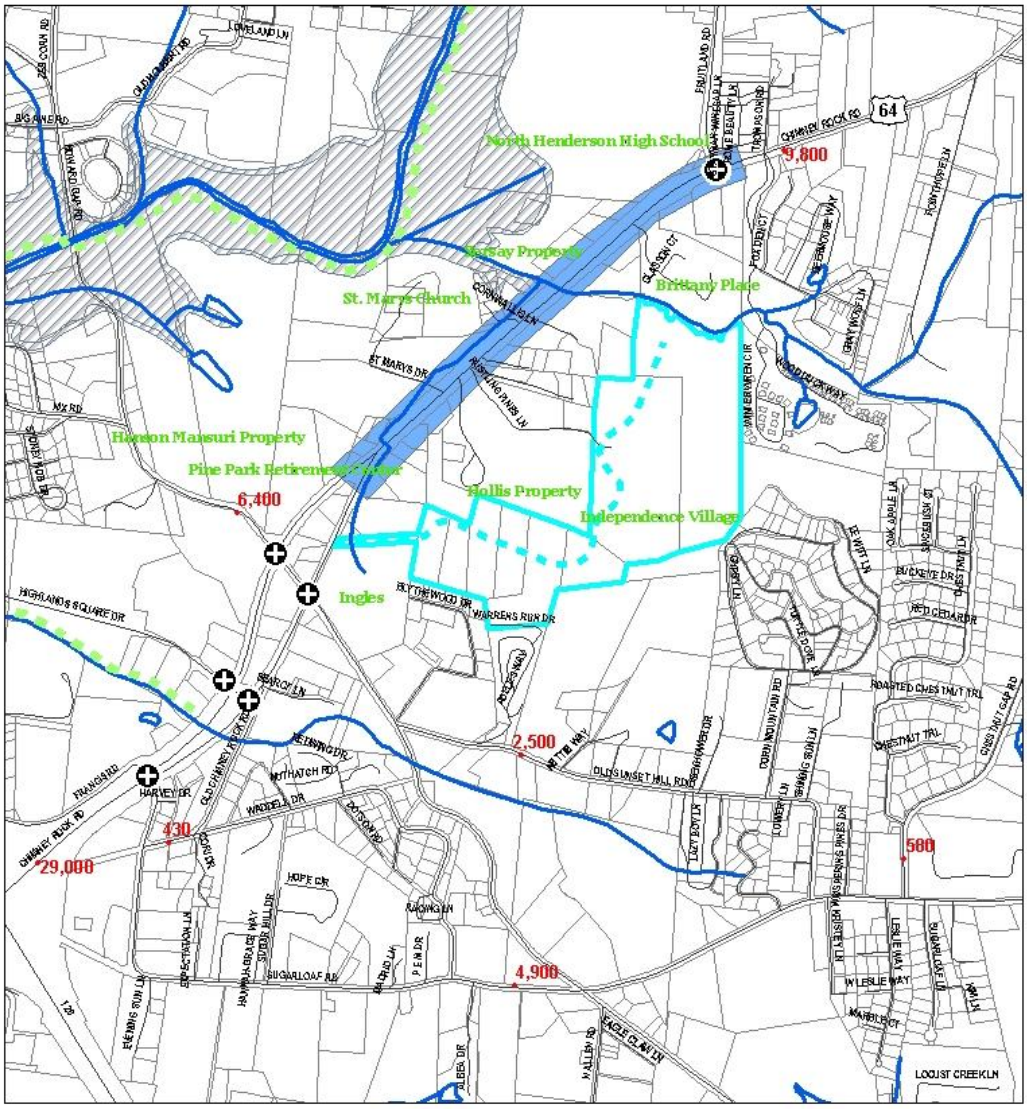
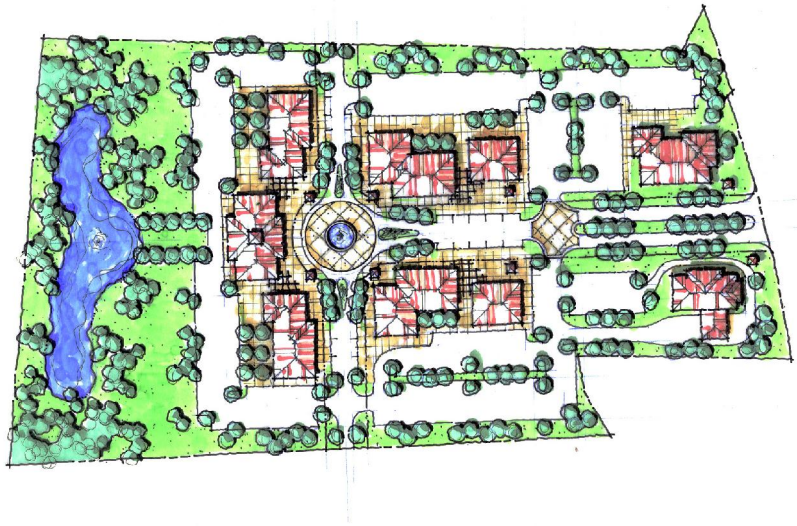


Figure 1
Study Area

HIGHWAY MIXED-USE ZONING

The zoning of property is a means to implement planning strategies. One method of implementing the Corridor Plan is the establishment of a new, Highway Mixed-Use (HMU) zoning district classification. The HMU district is intended to promote an integrated development pattern including improved transportation connectivity and accommodations for alternate modes. Ideally, this zoning district will encourage a mix of land uses that consist of medium density housing intermingled with appropriately scaled commercial development. This commercial development will include retail sales, services and professional offices. The medium density housing will likely include condominiums, apartments, and single-family homes on smaller lots.

The presence of large contiguous undeveloped parcels presents great development opportunities. These opportunities, as discussed in the Corridor Plan, are well suited for quality, master planned, mixed-use developments. A mix of well-integrated land uses interconnected through common access, parking, signage, lighting and landscaping is recommended. The Highway Mixed-Use zoning, as proposed, allows developers the flexibility to present appropriate development standards and lists of permitted uses in order to successfully develop a diverse and integrated site. This may include a symbiotic arrangement of land uses appropriately mixing commercial, office, service, recreational and residential land uses. The benefits of a successful mixed-use development include reduced trip generation and internal capture, lessening the impact on the external street network, a well-managed vehicular access plan which takes advantage of shared driveways and parking facilities where feasible. Continuity of architectural themes and environmentally responsible development strategies also are a by-product of the development pattern.



Example of a coordinated mixed-use development courtesy, The Lawrence Group

The HMU district also requires consistency with an established Circulation Plan. Working with the Mixed-Use Design Committee and planning staff, Kimley-Horn developed a circulation plan which addressed transportation mobility in the context of the entire study corridor. The HMU district regulations also require that a circulation plan be prepared for individual developments to demonstrate consistency with the overall plan and to indicate accommodations for bicycle/pedestrian access and vehicular circulation, parking, and loading. A comprehensive evaluation of the corridor resulted in a series of recommended transportation requirements. These recommended transportation policies are intended as a means to insure that development occurs in a manner which is coordinated and consistent with community goals. Figure 2 depicts the Highway 64 Corridor Circulation Plan (Circulation Plan).

HMU Zoning Advantages:

- Mixture of land use encourages multiple trips within one destination
- Circulation Plan insures adequate site circulation and promotes connectivity (improves transportation mobility for all modes)
- Reduced dependence on the arterial street network
- Allows for shared parking opportunities
- Provides opportunities for transit and shuttle service
- Walkable design increases pedestrian activity

Recommended HMU Transportation Policies:

1. Require all new development and redevelopment to be consistent with the Highway 64 Corridor Circulation Plan (see Figure 2).
2. Require the development of a circulation plan for all new projects. The circulation plan should be submitted as an element of the development application and should depict the following:
   - Pedestrian access and circulation, type of infrastructure (sidewalk vs. multi-use path), connections to adjacent pedestrian facilities
   - Vehicular Circulation Plan. Indicate parking, loading, and stubs to adjacent properties and any required cross-access easement.
3. Require that a Traffic Impact Study (TIS) be performed by a registered engineer in accordance with NCDOT standards for all developments that generate at least 100 peak hour trips or 1,000 daily trips in accordance with the Institute of Traffic Engineers current Trip Generation manual. The City may also require a TIS without regard for the expected trip generation of the development when special circumstances exist. Factors that would warrant such a requirement include, without limitation, the

following: a) there are existing level-of-service deficiencies (as defined by the Highway Capacity Manual—Transportation Research Board) in the area of the proposed development; and b) available accident data and/or operational and geometric factors indicate safety concerns.

4. Discourage the use of private streets and driveways as primary access from major arterials (including Highway 64) and promote the construction and dedication of public streets.
5. In an effort to improve and promote overall street connectivity, public streets constructed within the HMU district should provide connections to existing adjacent public streets. When no offsite streets stubs are present, the following connections should be provided to undeveloped properties at the following rate:
   - All new development with fewer than 100 dwelling units should be required to provide at least one stub-out street to extend and connect with future streets. In the event that adjacent land is already developed with stub-out requirements, the City should require the new development to build the street connections.
   - The City should require all new developments with 100 or more dwelling units to include street connections or stubs at a ratio of one stub/connection per 100 dwelling units. In the event that adjacent land is already developed with street stubs, the City should require the new development to connect to these existing street stubs. Required collector street connections are included in this calculation.
   - Non-residential, a minimum of one stub to adjoining parcels where deemed feasible and appropriate: considerations include: topography, land use compatibility, and future development or redevelopment potential.

   Note: The public streets should also be consistent with connections identified on the established Highway 64 Corridor Circulation Plan.
6. Pedestrian accommodations should be provided as a part of development along all public and private roadways. Pedestrian access and circulation should be consistent with any/all adopted local land use/small area/corridor plans. Pedestrian facilities shall be installed along both sides of all public streets.
7. Access to development outparcels should be oriented to the interior of the development site.
8. Cross-Access easements should be required to connect the parking areas of adjacent parking where appropriate. The intent is to improve corridor circulation and to reduce vehicle trips on the primary roadway for short trips between parcels and developments.

Recommended HMU Driveway Policy:

1. The number of driveways permitted for new development shall relate to the amount of linear frontage on Highway 64 for the proposed development as depicted below:

Linear Frontage	Number of Permitted Driveways
Less than 350 feet	1
Greater than 350 feet	2
Greater than 1,000 feet	3*

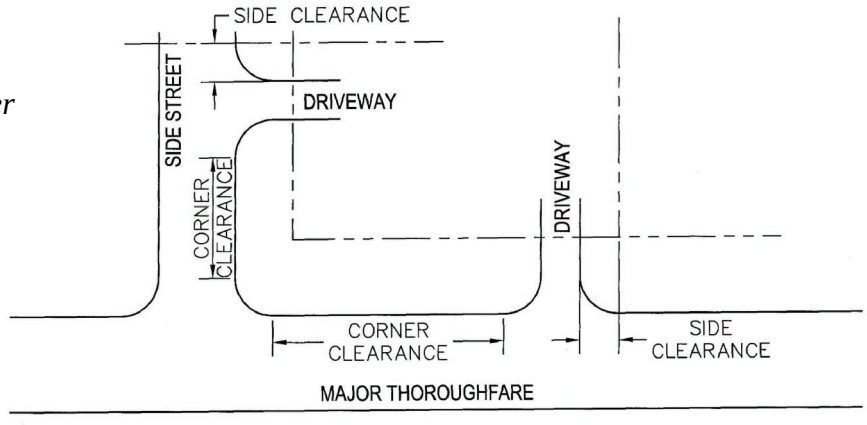
*with approval of the City and demonstration of need in the required TIS

2. All driveway approaches for both mid-block and corner lots along major thoroughfares shall have both minimum corner and side clearances as below:

	Along Major Thoroughfare	Along Side Street
Corner Clearance*	250 '	100 '
Side Clearance**	30 '	10 '

* Corner Clearance shall be measured from the point of tangency of the radius curvature of the intersecting streets.
** Side Clearance shall represent the distance from the driveway to the side property line

Side Clearance and Corner Clearance Illustration



3. No driveways shall be allowed along a major thoroughfare within 250 feet of any intersection, as measured from the intersection of the projected right-of-

way lines, except for properties which cannot meet this restriction due to limited frontage within the desired corner clearance.

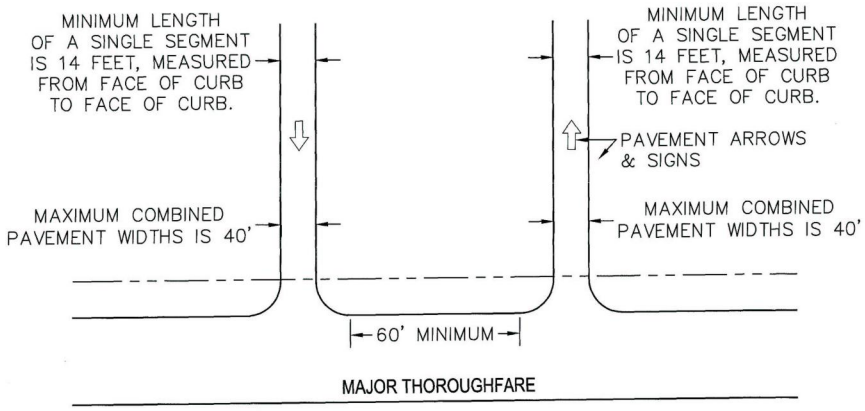
4. One-way driveways* are not considered full-movement driveways; therefore, two, one-way driveways may be considered as a single driveway provided that:

   (a) The minimum spacing between the two driveway segments is sixty feet;
   (b) The driveway segments are clearly signed and marked as one-way driveways, using pavement arrows and directional signs;
   (c) The maximum combined pavement width of both driveway segments at the right-of-way line is forty feet and the minimum width of a single segment is fifteen feet.

   **Full movement median divided driveways are <u>not</u> considered one-way driveways.*

NOTE: Vehicular access taken from existing or new state-system streets shall conform with the NCDOT driveway as described in the *2003 NCDOT Policy on Street and Driveway Access to North Carolina Highways*.

One-Way Driveway Illustration



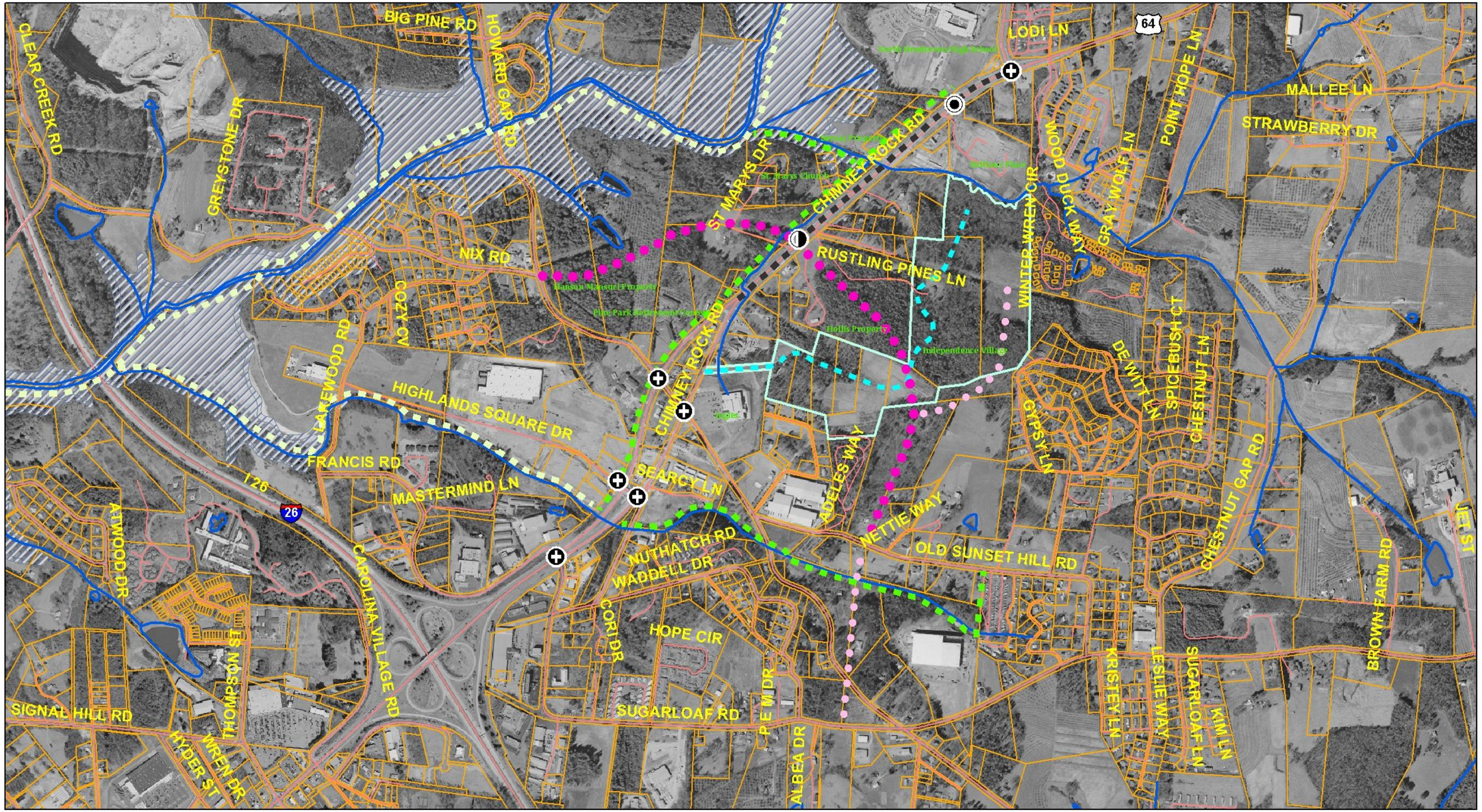
PROPOSED CIRCULATION PLAN

The *Highway 64 Corridor Plan* discusses the need for improved circulation and connectivity of streets within the vicinity. For this reason, a corridor circulation plan (Circulation Plan) was developed in order to identify and communicate strategic transportation connections within the vicinity. The Circulation Plan evaluated a variety of transportation modes, including motor vehicles, pedestrian and bicycle access.

The Circulation Plan communicates the location of a needed connection between Howard Gap Road and Highway 64 from the north and the continuation of the connector south to an intersection with Howard Gap Road. This roadway has been referred to as the "Howard Gap Connector." Other noteworthy elements of the Circulation Plan include pedestrian and bicycle improvements such as the planned development of a multi-purpose trail on the north side of Highway 64, connecting North Henderson High School to a greenway in front of Wal-Mart to the west. The design of this multi-purpose trail should accommodate pedestrians and bicyclists. The Circulation Plan also recommends a connection from the multipurpose trail to Clear Creek greenway on approved master plan and the installation of a median in place of the center two-way left turn lane.

Figure 2 depicts the proposed Highway 64 Circulation Plan.

Existing sidewalk along the south side of the highway



City of Hendersonville Highway 64 Circulation Plan

Legend

- Howard Gap Connector
- Potential Connector
- Planned Apple Country Greenway
- Future Greenway Connector
- Future Median
- Planned Independence Village Blvd
- Independence Property
- Streams
- Floodplain
- Parcels
- Future Signalized Intersection
- Median Opening
- Signalized Intersection

0 500 1,000 2,000 Feet

N W E S

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FIGURE 2

Median Installation

The *Highway 64 Corridor Plan* identifies a preference for a median on Highway 64 from Fruitland Road to the split at Howard Gap Road to the west. The Corridor Plan recommended the installation of a median for safety and beautification purposes. In addition to these stated goals, the proposed median may have the added benefit of preserving and enhancing roadway capacity.

The NCDOT widened Highway 64 in 1999 to its current five-lane section with two travel lanes to the east and west and a center bi-directional turn lane. While this roadway configuration increases roadway capacity, it does not effectively manage access. The resulting absence of access controls creates conflict points throughout the corridor.

The installation of a median on Highway 64 will likely require some widening (most within the existing right-of-way). The cross-section proposed includes the construction of a 23-foot median in place of the 12-foot center turn lane. The resulting installation will require a five and a half-foot offset for both sides. The median is set at this width to allow the creation of appropriate left-turn lanes and resulting concrete islands at specified median openings. Travel lane widths will remain 12 feet. Curb and gutter is not recommended on the outside of the travel lanes due to the increased cost and environmental considerations. The slope of the improved roadway will shed collected water without ponding. Sloped or transition curb and gutter is recommended on the interior travel lane adjacent to the median. This will create a clean edge, prevent debris from entering the travel way, and allow for a *raised* planted median. The installation of a multi-use path on the north side of the roadway is also recommended and may occur incrementally as development occurs. Figure 3 communicates the recommended typical cross-section for Highway 64. Figure 4 depicts a conceptual design for the roadway with the median installation.

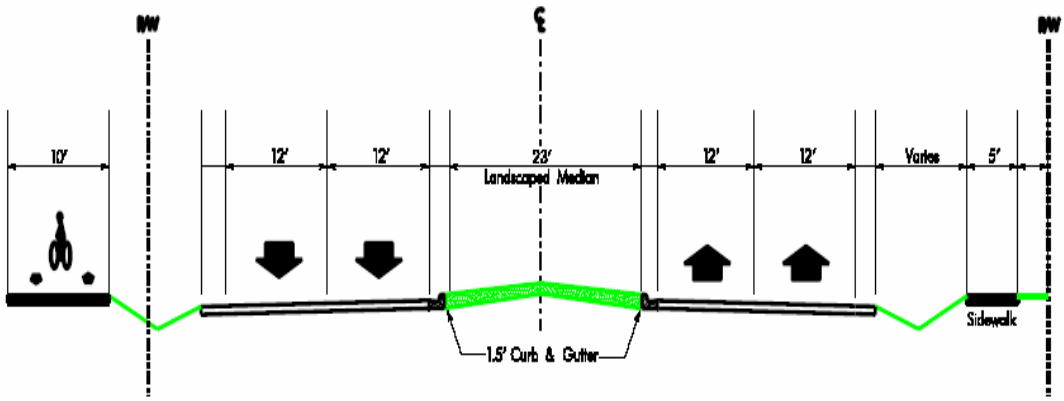

Figure 3: US Highway 64 East Recommended Typical Section

CITY OF HENDERSONVILLE
HIGHWAY 64 CONCEPT DESIGN

Figure 4 Concept Design

PLANNED APPLE COUNTRY GREENWAY

PROPOSED GREENWAY CONNECTOR

PINE PARK RETIREMENT CENTER

CHIMNEY ROCK RD.

US 64

PROPOSED HOWARD GAP CONNECTOR

INGLES

PROPOSED INDEPENDENCE BLVD.

GRAPHIC SCALE

(IN FEET)
1 inch = 150 ft.

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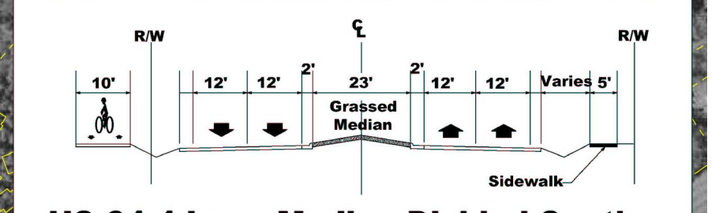


US 64 4-Lane Median Divided Section

This Circulation Plan also communicates a preferred location for a future traffic signal at the proposed Howard Gap Connector and Highway 64 intersection. The location depicted on the Plan is approximately 2,000 feet from the nearest traffic signal (location), an acceptable spacing according to NCDOT standards. One additional median opening should be considered at the entrance to the Brittany Place Apartments. Given its proximity to the signal at Fruitland Road and Highway 64, the location is not a likely candidate for a traffic signal. Further study is required to determine whether the median divided section should terminate at this location or be designed to accommodate the proposed median opening.

Howard Gap Connector

The *Highway 64 Corridor Plan* identified the need for a connection between Highway 64 south to Howard Gap Road. An alignment was not determined in the Corridor Plan. Therefore, existing environmental features such as flood plains, perennial streams, steep slopes and soil types were considered when developing the alignment that is depicted on the Highway 64 Circulation Plan (see Figure 2). This new alignment referred to as the Howard Gap Connector provides for a continuous roadway from Nix Road to Highway 64 and ultimately south to Old Sunset Hill Road. A future extension to Sugarloaf Road has also been identified. While this new transportation corridor provides increased access to properties a more important accomplishment is the establishment of an alternate route which reduces local dependence on Highway 64. By extending the connection to the north to form the fourth leg of the intersection at Howard Gap Road and Nix Road, a parallel facility is created. This facility provides additional mobility choices for the motorist and improves intersection capacity at Howard Gap Road and Highway 64 by attracting traffic onto the proposed Howard Gap Connector.

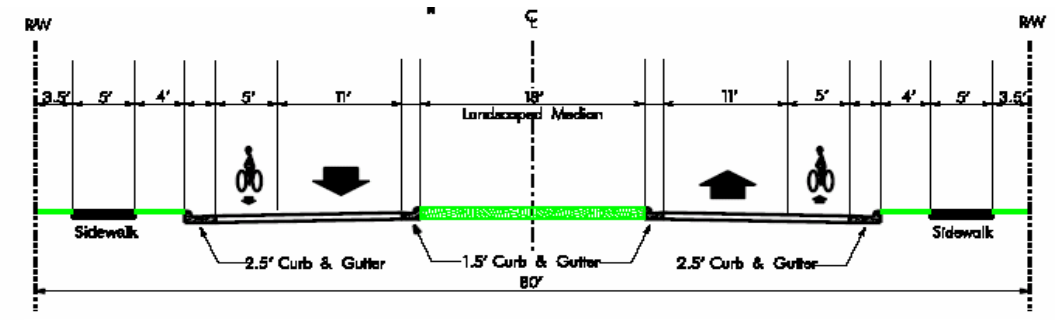
It is likely that the majority of this roadway will be constructed as a component of future development that occurs within the study area. For this reason, it is the intent of this Plan to remain flexible with regard to ultimate roadway alignment and cross-section. The follow represents a set of guiding principles that should be maintained as decisions regarding the roadway are considered:

- Any proposed alignment deviations should demonstrate the ability to maintain a feasible connection from Nix Road to Old Sunset Road.
- The intersection with Hwy 64 East should occur at a location that is acceptable for future signal installation (the optimum location is depicted on Figure 2: Circulation Plan). This location must be agreed upon by NCDOT and the City of Hendersonville.

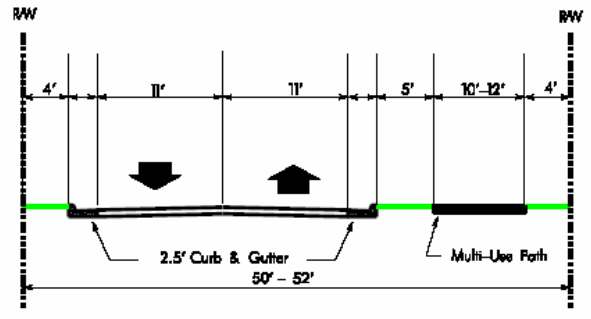
- The roadway section should maintain a clearly defined pedestrian and vehicular realm and should compliment the planned bicycle network for the area. (illustrative sections are depicted in Figure 5 below)
- A transition between different roadway sections should only occur at logical locations. While a continuous section is preferred transitions may be appropriate where one or a combination of the following are present: change in speed limit or roadway capacity, intersections, natural features such as stream crossings, and where changes in land use or development character occur.

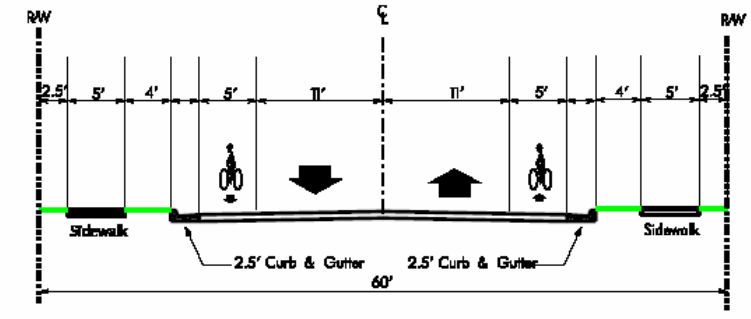
A walkable, multimodal transportation corridor is envisioned for the Howard Gap Connector. Proposed cross-sections should include at a minimum, two travel lanes with curb and gutter as well as accommodations for pedestrians and bicyclists. Travel lanes that do not exceed 11 feet in width are preferred (except when used as a wide outside lane for bicyclist). In addition, all sidewalks should be a minimum five-foot in width and should comply with all applicable ADA (Americans with Disabilities Act) standards. A multi-use path may be considered in lieu of sidewalks and bike lanes when approved by the City Planning Staff. The combination of narrow travel lanes and bike lanes will allow larger vehicles to maneuver without damaging infrastructure. The perceived scale of the roadway may be influenced by the presence of a median and bike lanes having a positive impact on vehicular speeds. The ultimate sizing of the road may be influenced by future traffic studies prepared for development in the vicinity. Figure 5 represents a set of illustrative street sections for the Howard Gap Connector.

Figure 5: Recommended Howard Gap Connecter Typical Sections

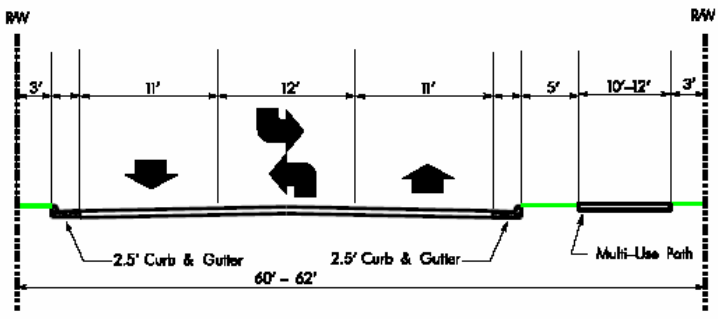


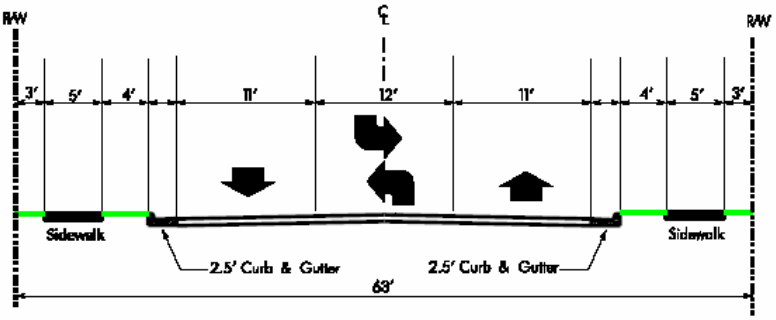
Two- Lane Divided Section





Two-Lane Undivided Sections



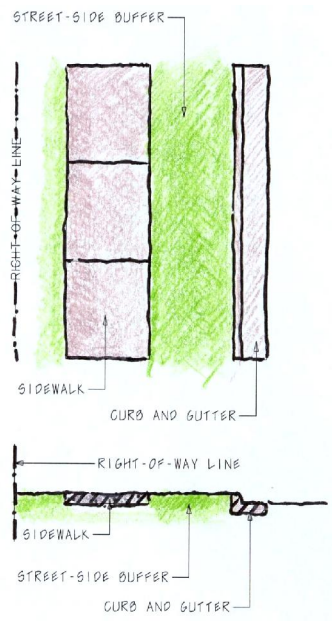


Three-Lane Sections

Alternative Modes of Transportation

Providing a well-connected system of pedestrian and bicycle facilities is essential for a successful mixed-use development. The proposed Howard Gap Connector, which will be the spine of such development, provides for both alternate modes of transportation. Sidewalks at a minimum width of five feet are proposed on both sides of the Connector. The sidewalks are to be separated by a four-foot verge or planting strip. The separation between the sidewalk and the back of curb creates a safer pedestrian environment.

Basic sidewalk anatomy



To encourage bicycle travel, five-foot bicycle lanes are proposed on Howard Gap Connector. Current NCDOT design standards call for bike lanes to be five feet in width. Bike lanes at a width smaller than five feet will create an uncomfortable environment for the bicyclist. This uneasy feeling will cause bicyclists to gravitate to the sidewalk or the vehicle travel lanes. The dedicated five-foot bike lane, in addition to the two-foot gutter pan, combines to create a seven-foot wide bike lane. At this combined width, riders of all skill levels should feel comfortable using the facilities.

Because of the nature and purpose of Highway 64 (to move traffic at a higher rate of speed), bike lanes are not recommended. Instead of bike lanes, a ten-foot multi-purpose trail is proposed for the north side of Highway 64. This trail is to be designed to accommodate pedestrian and bicycle travel. The offset of the trail from the highway is not defined, but should vary (minimum ten-foot separation). This will allow the trail to meander and thereby avoid any potential conflicts (i.e. trees, utility poles). The completion of the multi-purpose trail will provide a much needed pedestrian connection between North Henderson High School and points westward.

Access Management

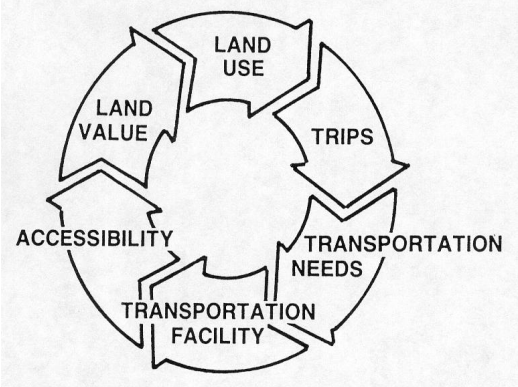
The City of Hendersonville, like most small communities in North Carolina, has historically relied on NCDOT to be concerned with managing access point (driveway) location and spacing throughout major urban corridors. The result of this practice is a deferment of decision-making to standards outlined in the 2003 NCDOT Driveway Ordinance. This ordinance entitled, *Policy on Street and Driveway Access to North Carolina Highways,* is not designed to preserve capacity but rather to balance the access rights of private property owners against accepted safety measures. In recent years, NCDOT has made a concerted effort

to preserve capacity along arterials by restricting access to specified median openings. Currently, this practice is being implemented only on new construction facilities. Also, in the absence of strong local government preference, cross-sections for road improvements have typically been selected based on the expected (rather than planned) land use. The result has been an abundance of thoroughfares constructed as five-lane sections without center medians, similar to the Highway 64 corridor. This practice has contributed to a continued strip development pattern that occurs in response to the ease of access afforded by the lack of a median. Interestingly, this pattern of development is counter productive to the goal of providing a seamless, integrated transportation system, as it tends to preclude viable pedestrian and transit elements. Safety, aesthetics, streetscape, and capacity have been compromised as well.

The Highway Research Board (a national think tank of transportation professionals supported by Federal Highway Administration), describes a "Cycle of Functional Obsolescence "that tends to compromise investments in traditional surface transportation dollars. Simply stated, as the roadway is improved, accessibility to adjoining property is thereby enhanced, raising the property value and encouraging the intensification of the land use in the improved corridor. It is not uncommon for improved roadways to experience significant peak hour congestion soon after widening due to speculative land development and inadequate access management.

The development occurring along the Highway 64 corridor is anticipated to continue, with properties expanding and redeveloping. Further pressure will be placed upon Highway 64 as development continues to move eastward. Therefore, it is recommended that a policy of both general and specific access management guidelines should be developed for the Highway 64 corridor and other identified thoroughfares throughout the Hendersonville planning area. Consideration should be given to a variety of resources during the development of these criteria, including the City of Hendersonville Zoning Ordinance, NCDOT Driveway Manual, as well as Transportation Research Board and Center for Urban Transportation Research (University of South Florida) publications that describe and compare policies across the nation. The following represent preliminary recommendations that also should be considered during the development of a corridor access management policy.

"Cycle of Functional Obsolescence"



Recommendations:

- New non-residential developments located adjacent to each other should be encouraged to provide cross-access so that parking lots and driveways are connected and shared.

  Encouraged cross-access between adjacent developments reduces the number of vehicles that are required to re-enter the major roadway. Keeping additional turning traffic off the major roadway enhances efficient and safe operation.

- Minimum lot frontages should be considered for non-residential developments along the major roads (Highway 64).

  Typical access management standards for similar corridors would ideally recommend a minimum of 300 foot spacing between non-residential driveways. In order to feasibly enforce this spacing, adjacent commercial properties would need to have well over 200 feet of frontage. Encouraging minimum frontage prevents driveways from being too closely spaced.

- Larger developments, such as shopping centers, should be required to provide internal access to outparcels.

  Providing access to outparcels is another facet of cross-access that encourages internal traffic circulation and keeps unnecessary turning traffic off the major roadways.

- Implement right-turn deceleration lanes for developments generating significant peak hour traffic as determined through development/traffic impact study process.

  Right-turn deceleration lanes minimize the effect of slowing traffic exiting the traffic stream on the major roadway. This improves safety and allows the major roadway to operate at more desirable speeds. Where deemed necessary by a traffic impact study (TIS), deceleration lanes should be constructed within the property of the proposed development.

- Right-in/right-out only driveways should be encouraged as secondary access on major roadways for non-residential developments.

  If appropriate, when a new development requests more than one driveway, the feasibility of a right-in/right-out driveway as a secondary access should be evaluated and encouraged.

- For new developments that front both a major and a side street, primary access via the side street should be encouraged.

  Restricting major road access to service entrances or right-in/right-out driveways (where side street access is available) reduces the impact of turning movements on the major road. It also may reduce or eliminate the cost to a developer when associated with constructing a deceleration lane on the major road.

ACTION PLAN

The Highway 64 Corridor is a dynamic area with opportunities to implement and foster the City of Hendersonville's vision. The preceding report documents the transportation policies and recommendation necessary to support the envisioned HMU zoning district.

The following recommendations are offered in an effort to assist the City in outlining and inventorying necessary steps to achieve the desired outcomes associated with the continued development of the study area:

- ZONING
  Establish the highway mixed-use zoning throughout the Highway 64 Corridor and discourage continued strip development along the corrdior. Encourage quality, master planned, mixed-use developments on larger parcels ensuring appropriate site integration, including shared access, internal site integration, common signage, landscaping, lighting, architecture, and parking (where feasible).

- MEDIAN TREATMENT
  Further evaluate the potential of a median on Highway 64 from the bifurcated section near the intersection of Howard Gap Road to Fruitland Road. Gain consensus on the design issues related to said installation and develop an implementation strategy necessary to achieve success. This will likely include participation of the City, NCDOT and the development community.

- ACCESS MANAGEMENT
  Adopt and enforce an access management policy for Highway 64 and other major corridors within the City. The policy should focus on specific strategies intended to mange the number and placement of vehicular access points for new development. The access management policy should be used in conjunction with the Highway 64 Circulation Plan, which dictates access locations, shared access, and median openings. In addition, a successful policy would provide the City with the authority to implement a successful circulation pattern using service roads, median installation, and traffic control devices. Appropriate access management techniques as outlined in this report also should be considered.

- CONNECTOR ROADS
  Future development of the study area south of Highway 64 will necessitate the construction of the Howard Gap Connector (and other secondary roads). Given the potential for future signalization, as well as median installation, this connector will provide accessibility to undeveloped parcels and full-movement turning capabilities on Highway 64. The city should require

development plans to be consistent with the Circulation Plan including the incremental construction of the Howard Gap Connector. The City should initiate the development of a functional roadway design in order to guide the orderly development of this transportation facility. This design should refine the typical section, roadway alignment, and identify critical alignment windows such as intersections.

- TRAFFIC STUDIES
  Identify a process to secure traffic data for large traffic generators (Traffic Impact Studies). The data provided through these efforts will provide the City staff and policy makers with the data necessary to make decisions related to the development site plans, site circulation, and proposed improvements intended to mitigate the traffic impacts of new developments.