

Chapter 6 – Implementation

Introduction

Transportation plans are successful only if they are implemented. Likewise, funding and consistent policies are required to fully realize the benefits of a collector street plan. When public funding is the sole source of financing used to build a system of streets, the result tends to be a fragmented and extremely slow execution of much needed infrastructure. The competition for public funds continues to escalate with each passing year and the planning, design, and construction of publicly-funded transportation projects typically take 10 years (sometimes even longer in environmentally-sensitive areas). One of the advantages of a collector street plan that is reinforced by supporting local policies is that most of these roads can be built by developers. The majority of collector streets should be no more than two-lane roads that can easily be incorporated into the development plans of the private sector. With this in mind, the City of Durham and Town of Chapel Hill have proactively conducted this study to demonstrate the benefits of an interconnected system of collector streets as well as a strategy to see them built incrementally as development occurs. This strategy has the added advantage of ensuring the timing of transportation infrastructure so that it coincides with the creation of transportation demand.

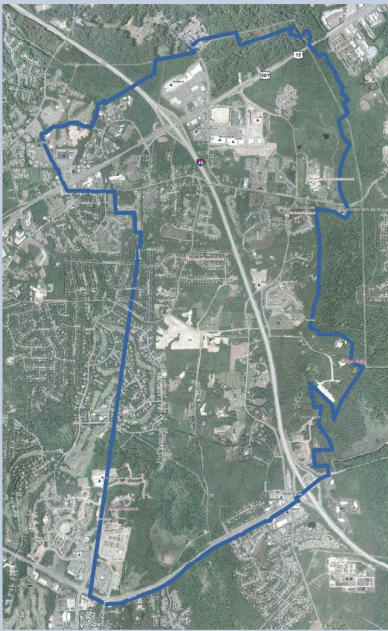
This chapter provides general policy recommendations and an action plan to assist local decision makers and planning staff in the implementation of the *Southwest Durham County and Southeast Chapel Hill Collector Street Plan*. As shown in the collector street plan, an interconnected network of well designed collector streets can help develop safe, attractive, pedestrian-friendly neighborhoods.

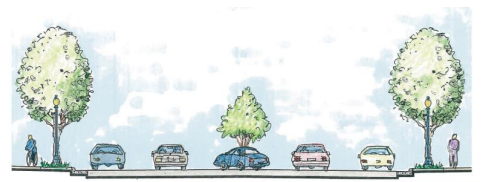
General Recommendations

Although specific recommendations are discussed in Chapters 4 and 5, the following general policy recommendations are offered for consideration:

General Policy

- Update modal plans for bikeways, greenways, and transit networks with the *Collector Street Plan* to create overlapping and internally consistent plans for an interconnected multimodal network



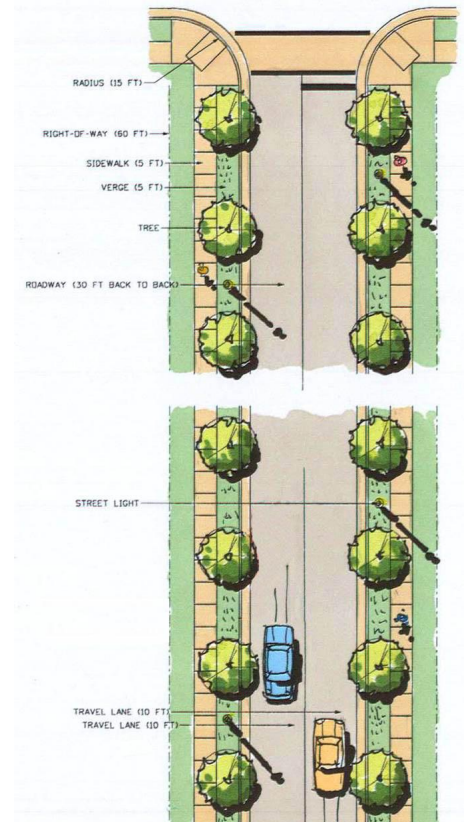


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- Avoid and/or minimize impacts to environmentally sensitive areas to preserve the natural environment. Proactively pursue permits from the U.S. Army Corps of Engineers to build both the Southwest Durham Drive and the short extension of George King Drive. The alignments have been shown to skirt the edges or barely penetrate environmentally sensitive areas.

Collectors

- Increase the number of collector streets to better facilitate travel between local streets and arterials
- Use the plan as a tool to review proposed development projects and plans as they locate and design future collector streets
- Integrate design standards (starting page 5-2) and provisions for residential and commercial collector streets through the development process
- Amend the *Collector Street Plan* as necessary to include new streets as they are identified during the development review process
- Work with the development and real estate community to increase public awareness of future collector street connections through enhanced signage
- Provide temporary turnaround accommodations for collector street stub-outs to allow access by maintenance and emergency vehicles; right-of-way needed for turnaround would revert back to property owners once connection is made
- Local jurisdictions should consider dedicating collector streets as public right-of-way to allow proper design and maintenance of facility
- Require that new developments reserve right-of-way for, and in some cases construct, future collector streets





- Local jurisdictions should consider adopting policies and dedicating funding to help construct traffic calming measures on existing collector streets that become connected to new collector streets.

Action Plan

To firmly establish *Collector Street Plan* principles into the normal course of business, several amendments to current policies are recommended, including the following:

1. Collector Street Plan – The Durham – Chapel Hill – Carrboro – Metropolitan Planning Organization (DCHC MPO) should adopt the *Collector Street Plan* (map) as a part of the state-mandated Comprehensive Transportation Plan (CTP). The City of Durham and the Town of Chapel Hill should consider adopting the Collector Street Plan as an element of their respective Comprehensive Plans, the *Durham Comprehensive Plan* and *Planning for Chapel Hill's Future: The Comprehensive Plan*. The City and Town should consider all available strategies to obtain rights-of-way, ensure connectivity, review requested variations, and secure funding agreements.

“Work toward a balanced transportation system” – Planning for Chapel Hill's Future: The Comprehensive Plan

“Promote the creation and enhancement of a livable, safe and beautiful community for all Durham citizens.” – Durham Comprehensive Plan
2. Revise local ordinance – Both Durham and Chapel Hill should evaluate their current ordinance for any inconsistencies and develop code that accurately communicates the collector street design and construction requirements of their respective jurisdictions.
3. Street Spacing and Access – Consider adopting the street spacing guidelines (page 5-1) to promote efficient development of an expanding transportation system. These street spacing guidelines could be used as “rules of thumb” during the development review process.
4. Street Standards – The City and County of Durham should consider revisions to the street standards for public and private streets described in the table of Minimum Design Requirements for Public and Private Residential Streets. The current standards lead to speeding issues in residential neighborhoods. Neighborhood quality




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of life may be improved by narrowing the total pavement width of collector streets to match illustrations contained in the Collector Street Plan. Other street design requirements in the above referenced table should be reviewed and updated as well.

5. Sidewalks — The City of Durham and Town of Chapel Hill should continue subdivision ordinances to require that sidewalks be built on both sides of all new residential and commercial collector streets. Sidewalks should be a minimum of 5 feet wide along residential, commercial, and industrial collectors. A verge width of at least 4.5 feet (wider verge is preferred) should separate the edge of pavement from the edge of sidewalk. The City of Durham and Town of Chapel Hill should also require that their pedestrian plans be consulted to provide the correct facility type (i.e. sidewalk or shared-use path).
6. Bicycle Plan — The Town of Chapel Hill currently has a bicycle plan and the City of Durham is developing a bicycle plan which will identify an interconnected system of signed bicycle routes, striped bike lanes, and off-street bike paths that serve popular bicycling destinations such as schools, parks, libraries, community centers, shopping areas, and downtown areas. The plan should take advantage of low-volume, low-speed residential local and collector streets to the extent possible. It is recommended that Durham's street design standards be modified to require that bike lanes be built on those collectors that are specified by the plan. Chapel Hill's design manual already requires this.
7. Streetscape — To induce self-enforcing speed limits on residential and commercial collector streets, the Town, City, and counties should develop streetscape guidelines for application by the Town or City (on publicly-funded projects) and developers (on privately-funded street projects). Streetscapes can narrow the visual field perceived by motorists without compromising safety. For example, on streets with posted speed limits of 35 mph or less, street trees that create a canopy effect will naturally cause most drivers to travel slower than on streets with wide open vistas. Streetscape enhancements include landscaped medians or median islands for pedestrian refuge at intersections, pedestrian-scale street lighting, street trees, benches and other street furniture, bus shelters, and highly visible crosswalks.



8. Traffic Calming – The local jurisdictions should consider enhancements to existing traffic calming programs to offer more than speed humps. An update of the policy may be warranted to ensure that it relates to developer requirements as new residential streets are built. The intent of the policy should be to eliminate the need for retrofits on future streets as the area continues to grow and build new residential neighborhoods.
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9. Southwest Durham Drive Study – Based on public input, it is recommended that further study be conducted pertaining to the alignment of Southwest Durham Drive. The public response indicated a strong opposition to the current alignment of this facility.
 10. Farrington Road Interchange Study – Based on public input, both for and in opposition, it is recommended that further study be conducted on a potential interchange on Interstate 40 at the existing Farrington Road bridge over I-40.
 11. NC 54 Corridor Study – NCDOT has begun studying the NC 54 corridor. It is recommended that further study be conducted to assess the safety, traffic congestion, and access management issues along this corridor.
 12. Consolidated Transportation Study – Based on the interdependence of the major transportation facilities in this area; it is recommended that these studies identified above (i.e., #9, #10, and #11) be consolidated into a single study. The study can be funded by consolidating several funding sources including the DCHC MPO, NCDOT, local governments and relevant property owners and developers.

Funding and Phasing Concepts

One of the primary purposes of the *Southwest Durham County and Southeast Chapel Hill Collector Street Plan* is to consider recent trends, anticipated growth, and the relationship between growth and the street network. The Plan communicates the framework for the future street network. It should be noted that the future collector streets proposed as part of the Plan do not depict specific alignments, instead they communicated desired connections. This practice ensures flexibility and allows local developers to adapt their development plans in a manner that is homogenous with their desired development vision. Simply stated, the exact alignment is not nearly as important as ensuring that the connection is made. The Plan conveys a concept of a system of collector streets that work together to provide interconnectivity. Only through the adoption of local policies and procedures can the incremental construction of the collector street network effectively occur. With this in mind, it is recommended that the development review process include consideration of the future collector street network. Just as with the Comprehensive Transportation Plan (CTP), development should be required to proceed in such a way that it is responsive to and consistent with the proposed future year street network. Identification of the future street connections should also be given consideration during the zoning and review process.

Because collector streets generally are maintained by the City/Town and not by NCDOT, the implementation of this plan can be achieved either by private development through the plan approval process or through public/private partnerships. The collector streets proposed as part of the *Southwest Durham County and Southeast Chapel Hill Collector Street Plan* generally fall into one of three categories: (1) new collector streets to be constructed as land is developed, (2) proposed connections to eliminate a discontinuity along another existing collector street, or (3) the extension of an existing collector street to another existing collector street or an existing arterial. For the most part, the responsibility for funding and constructing a collector street will depend on its category.

Routine Development

Under current practice, new collector streets that are constructed as land is developed will remain the responsibility of the developer. Newly proposed cross-sections for residential collector streets include additional landscaping, street level lighting, and sidewalk.



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In certain situations it may be beneficial for the City/Town to partner with a developer to extend a collector street beyond his/her project or phase line. This may prove advantageous where an extension is necessary to improve access and emergency response services within a given area or to avoid further burdening the existing local street network due to the lack of a reasonable and convenient outlet to the arterial system. In these situations, the City/Town may consider participating in the cost of constructing the collector street and extending it to a logical or more desirable terminus. In general, such an investment by the City/Town would not exceed the cost of extending the collector street at some future date once the developer has completed his/her project.

Elimination of Existing Discontinuities or Dead Ends

In situations where a collector street is needed either as an extension that would connect to an arterial or as a missing link, the City/Town may initiate the improvement by funding it in the Capital Improvement Program and then building the street subject to assessment of the cost to the abutting properties.



Randall Road Stub-out

Economic Development Projects

The construction of collector streets may also be used as a tool to promote economic development. While this concept could apply in residential, commercial, or industrial zones, it is most likely to be used to promote either commercial or industrial development.

In terms of funding, such projects would typically be incorporated into the City/Town's Capital Improvement Program and funded with Powell Bill or general fund revenues.

Alternative Funding Measures

It is evident that Powell Bill and general fund revenues alone will not be sufficient to fund a systematic program of constructing collector streets within the City/Town. Alternate funding measures that other jurisdictions have used for street system improvements include:

- Transportation Bonds
- Impact Fees
- Enhancement Grants

Transportation Bonds

Transportation bonds have been instrumental in the strategic implementation of local roadways throughout North Carolina. Voters in communities both large and small regularly approve the use of bonds in order to improve their transportation system. Projects that have historically been funded include sidewalk projects, roadway extensions, new road construction, and streetscape enhancements.

Impact Fees

Developer impact fees and system development charges are another funding option for communities looking for ways to pay for collector streets and associated infrastructure. They are most commonly used for water and wastewater system connections or police and fire protection services but they have recently been used to fund school systems and pay for the impacts of increased traffic on existing roads. Impact fees place the costs of new development directly on developers and indirectly on those who buy property in the new developments. Impact fees free other taxpayers from the obligation to fund costly new public services that do not directly benefit them. Only a handful of communities in North Carolina have approved the use of impact fees (e.g. Cary). The use of impact fees requires special authorization by the North Carolina General Assembly.

Enhancement Grants

State and Federal Grants can play an important role in implementing strategic elements of the transportation network. A number of grants have multiple applications including, Transportation Enhancement Grants as well as State and Federal Transit Grants. The Enhancement Grant program was established by Congress in 1991 through the Intermodal Surface Transportation Efficiency Act (ISTEA) as a means of ensuring that a variety of projects – most not typically associated with the road-building mindset – were implemented. While the construction of roads is not the intent of the grant, the construction of



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bicycle, pedestrian, and streetscape improvements are a few of many enhancements that the grant targets and could play an important role in enhancing the pedestrian safety and connectivity in the City of Durham and Town of Chapel Hill. For more information on the Enhancement Grant Program see the following web page link: www.ncdot.org/planning/development/Enhancement/enhancement/enhancement.htm