

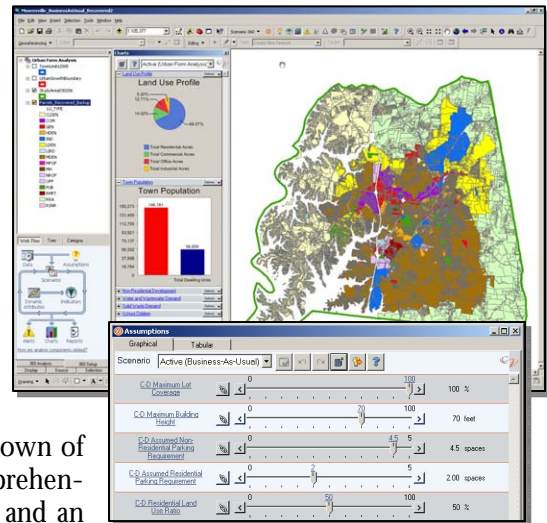
# Comprehensive Transportation Plan

Knitting together land-use and transportation decision-making through scenario planning

**Location:** Mooresville, North Carolina

**Partners:** Town of Mooresville; Kimley-Horn and Associates, Inc; Mary Means and Associates, Inc.; North Carolina Department of Transportation

**Context:** Mooresville grew from a tiny train stop in the mid 1800s, to a textile center in the early 1900s, to become a fast growing community of 27,000 by 2007. By some estimates, the population is expected to double in the next 20 years.<sup>1</sup> Within easy commuting distance to Charlotte, and offering amenities associated with Lake Norman, Mooresville now offers a mix of urban, suburban and small town living environments, as well as attractive locations for business and industry. Mooresville is the home of the Lowe's Corporate Campus and an expanding motor sports industry, earning it the name of "Race City USA."



Wisely recognizing the essential relationship between land use, urban form, and transportation decisions, in 2006 the Town of Mooresville initiated three major planning projects: a Comprehensive Land Use Plan, a Comprehensive Transportation Plan, and an update of its Zoning Ordinance. Following a suggestion by the Federal Highway Administration, the Town decided to incorporate scenario planning to better link the three planning processes.

**Project Description:** The Town selected Kimley-Horn and Associates (KHA) to lead the development of the Comprehensive Transportation Plan (CTP) for a study area of 130 square miles, incorporating Mooresville and surrounding areas of influence. The CTP was developed concurrently and in coordination with the Comprehensive Land Use Plan project, led by Mary Means and Associates, and with the guidance of a Citizens' Transportation Committee. The transportation and land use project teams held two joint public workshops—the first to translate ideas and values into concrete goals, and the second to respond to plan recommendations as they were being developed.



Both the transportation and land use plans were built upon the scenario planning exercise led by KHA. KHA first established urban form categories within a transect, the framework used by the Congress for New Urbanism for organizing development patterns, intensities, and design elements observed in the built environment. The categories for Mooresville included "environmentally sensitive", "rural", "lakeside living", "suburban", "general urban", "town center", and a "Mount Mourne special district." KHA used these urban form categories to evaluate two extreme future year development scenarios—a sprawl development scenario and a compact development scenario. They used

<sup>1</sup> Mooresville Comprehensive Land Use Plan

CommunityViz® to evaluate both alternatives, and to learn how the extent and arrangement of competing development alternatives would impact the efficiency of the proposed transportation system. KHA transferred the CommunityViz outputs (i.e., dwelling units, population, and employment by type) into the 2030 Metrolina Regional Travel Demand Model to generate a comparison of daily travel characteristics across the two scenarios. The compact development scenario was shown to reduce congestion on major roads, and to increase the feasibility of alternative modes of travel. The results served as the guiding framework for the CTP, which provided detailed recommendations for investments in transportation programs, facilities and services, and served as a key factor in the development of the Future Land Use Map included in the Comprehensive Land Use Plan.

Matt Noonkester of KHA noted that “using CommunityViz, we were able to communicate effectively with stakeholders, the advisory committee, and the general public on the inherent relationship between land use (demand), urban form (design), and transportation (supply) for improving the efficiency of the transportation system while promoting livability within the community. In addition, we were able to leverage the insights and measures of effectiveness generated through holistic analysis of competing development scenarios to provide mutually beneficial transportation and land use policy recommendations and implementing actions.”



#### KEY LINKS

CommunityViz  
<http://www.communityviz.com>  
Town of Mooresville:  
<http://ci.mooresville.nc.us>  
Kimley-Horn and Associates, Inc:  
<http://kimley-horn.com/kha>  
Mary Means and Associates, Inc:  
<http://www.marymeans.com>

**Technology and Tools:** CommunityViz 3.1 was used as the platform for building and analyzing the alternative development scenarios. Tools used within CommunityViz Scenario 360™ included the Suitability Wizard and the Allocator Wizard. Categorization of development patterns, intensities, and design elements observed in the built environment followed the transect advocated by the Congress for New Urbanism. CommunityViz outputs were input into the 2030 Metrolina Regional Travel Demand Model maintained by the Charlotte Department of Transportation. Methods to engage the public included resource allocation surveys of Citizens’ Transportation Committee members and of workshop participants; two project newsletters; two joint public workshops with Comprehensive Land Use Plan project; a dedicated project website; and publication of the Plan on the Town’s website.

*“We were able to develop both a transportation plan and a land use plan in a way that truly made the relationships clear. CommunityViz provided the tool with which we were able to successfully bridge the two plans.”*

–Tim Brown,  
Director of Planning,  
Town of Mooresville

**Outcomes:** The Comprehensive Transportation Plan was adopted by the Town in 2007; the North Carolina Department of Transportation (NCDOT) adopted the Plan maps in 2008. Both the Comprehensive Land Use Plan and the update of the Zoning Ordinance were adopted by the Town in 2008. The Town has started to work on a series of alignment studies as recommended in the CTP, and the Town is implementing specific transportation recommendations (e.g. related to access management and development connectivity) in its review of development proposals. KHA provided the CommunityViz model to the Town to maintain and to use in future comprehensive transportation and land use planning efforts. The NCDOT is currently using the Mooresville CTP as the preferred example/model for in-house scenario planning training.