Connect 2045

Development & Mobility Investment Scenarios

Connect 2045 is the way that the Research Triangle Region is examining realistic choices for improved connection of the region's communities through future mobility investments.

To better understand our choices, Connect 2045 creates scenarios, then examines them across a range of performance measures. A scenario describes a way that the future *might* be, but it is not a forecast, which predicts the way the future *will* be, nor a plan, which defines what the future *should* be.

Scenarios have two foundations: a development foundation – which describes a regional pattern of land use, and a mobility investment foundation – which defines the roadway and transit networks and transportation services that can best serve the development pattern and connect key centers. Bringing these two foundations together to create scenarios is especially important since each foundation tends to have different decision makers: land use and development decisions are made by local governments and major institutions while major transportation investments are often made by regional transportation agencies and state government. Scenarios can help each set of decision makers better understand how the choices they make influence -- and are influenced by -- other decisions.

The Development Foundation: Anchor Institutions & Mainstays (AIM)

Connect 2045's development foundation is built around two key elements that we represent with nautical terms: anchors and mainstays. **Anchors**, of course, secure a ship in place. Similarly, anchor institutions in the Research Triangle Region define fixed locations that have long served as key travel destinations in the region and will continue to do so over the long term. On a ship, the mainstay is the principal rope securing the main mast to the bow. More generally, the term has come to mean a key element on which other things are based or depend. The Connect 2045 scenarios define **mainstays** as specific locations that are or could become key centers of activity on which to base new or improved transportation investments. The table below provides some context and examples for these two elements of the Development Foundation.

Foundation	Description	Examples
Anchor Institutions	Large, "place-based" institutions with fixed locations that serve as major employment hubs and travel destinations	• Universities • Medical Centers • Research Triangle Park • Raleigh-Durham International Airport • State Government Campuses
Mainstays	Key locations in the region with the potential for significantly influencing mobility within regional transportation corridors	• City cores • Other existing or planned major activity centers • Potential additional centers along major transit lines or roadways.

The Mobility Investment Foundation: Transportation Networks & Services

Networks consist of links and nodes. For example, the highway network includes different kinds of roads and important nodes such as interchanges where these roads intersect. Transit networks include rail and bus routes and nodes such as park and ride lots or transit stations and stops where people access or transfer between transit routes.

Services include activities and investments designed to make the use of the networks as effective as possible. Examples include the use of advanced technologies, transportation demand management efforts, and pricing signals such as parking and transit fare policies.

Development and Mobility foundations can be combined in a number of different ways to create scenarios. The table below illustrates conceptually how the two foundations combine to create scenarios. The actual number of scenarios and the details of each will be developed during the summer of 2016.

	Mobility Foundation #1	Mobility Foundation #2	Mobility Foundation #3
Development Foundation #1	Scenario #1	Scenario #2	
Development Foundation #2	Scenario #3	Scenario #4	
Development Foundation #3	Scenario #5	Scenario #6	Scenario #7
Development Foundation #4			Scenario #8

The subsequent pages in this document describe different development foundations, and complementary mobility foundations that might align with development foundations. The two foundations are then combined into a set of Development & Mobility Investment scenarios to be examined in Connect 2045.

Scenario Development Foundations
(framework)

a. <u>By Right</u>
   i. Based on zoning or the equivalent
   ii. If someone walked into the planning office today seeking a site plan approval or building permit with no additional policy board action, what would likely get built?
   iii. Initial parcel-level place types generated automatically based on zoning-to-place type equivalency table provided by local planning staff
   iv. Initial scenario complete by July 2016

b. <u>Community Plans</u>
   i. Based on adopted or "most likely" plans
   ii. Includes pre-populated "default 2045" place types from 2040 MTP CV run
   iii. Initial scenario complete by July 2016

c. <u>Anchor Institutions & Mainstays (AIM) – Steady Progress</u>
   i. Anchor institutions are universities, medical centers, RTP, RDU, state government.
   ii. Mainstays are key opportunity sites, generally along major roadway and transit corridors, including the downtowns of larger cities and towns. Special attention could be paid to "infill" sites with high market potential along major transit corridors and significant parcels under the control of local, state or federal agencies.
   iii. This is a "what if" scenario that need not be based on existing planning efforts
   iv. "Steady Progress" means development proposals are reasonable extensions of recent directional changes – towards greater intensity, mix of uses, and transportation choices
   v. Scenario drivers complete by August 2016; initial scenarios complete by September 2016

d. <u>Anchor Institutions & Mainstays (AIM) – High Aspirations</u>
   i. Anchor institutions are universities, medical centers, RTP, RDU, state government.
   ii. Mainstays are key opportunity sites, generally along major roadway and transit corridors, including the downtowns of larger cities and towns. Special attention could be paid to "infill" sites along major transit corridors and significant parcels under the control of local, state or federal agencies.
   iii. This is a "what if" scenario that need not be based on existing planning efforts
   iv. "High Aspirations" means development proposals push the envelope, but although aspirational, are still "market possible" over the scale of a generation.
   v. Scenario drivers complete by August 2016; initial scenarios complete by September 2016

Scenario Mobility Investment Foundations
(framework)

a. Constrained (current condition)
   i. Little or no state and federal transit funding; current rail constraints remain
   ii. No increase in state or federal gas tax (declining revenues as efficiencies outpace growth)
   iii. Wake County does not pass local option sales tax
   iv. STI-limited division level road projects with no increase in historical local effort
   v. STI-limited ped-bike funding with no increase in historical local effort

b. Moderate/Plans
   i. Restoration of original STI conditions with removal of rail constraints
   ii. No major change to state or federal gas tax or alternative, but assume FAST revenue trend
   iii. Wake passes local option task and funds per plan – additional projects beyond 10 years
   iv. Modest increase in local funding compared to historical trend

c. Aspirational
   i. More state/federal project success than Wake County assumes
   ii. Modest increase in federal or state revenues (e.g. based on higher investment states)
   iii. STI "tweaked" to redefine statewide and regional projects for transit and remove constraints, while allowing more dollars for division tier
   iv. Greater increase in local funding compared to historical record

Connect 2045 Scenario Matrix
framework – number and details of scenarios still to be developed

		Mobility Investment Foundation		
		Constrained	Moderate/Plans	Aspirational
Development Foundation	By Right	Scenario #1	Scenario #2	
	Community Plans	Scenario #3	Scenario #4	
	AIM-Steady	Scenario #5	Scenario #6	Scenario #7
	AIM-High			Scenario #8