

Rock Hill - Fort Mill Area Transportation Study

2035 Long Range Transportation Plan

Executive Summary

About this Plan

This plan is the 2035 Long Range Transportation Plan (LRTP) for the urbanized area of York County, South Carolina. It has been prepared by the Rock Hill - Fort Mill Area Transportation Study (RFATS), which is the local Metropolitan Planning Organization (MPO) responsible for regional transportation planning in this area.



The plan is multi-modal, covering highways, public transportation, freight, bicycle travel, pedestrian travel, and aviation. It includes a financial plan for transportation expenditures to 2035, as well as a congestion monitoring process. The plan also takes social and environmental considerations into account, along with public involvement during the course of its preparation. It is in compliance with SAFETEA-LU requirements and transportation conformity standards.

Required Planning Elements

Federal law specifies the elements and processes that must feed into each LRTP. The current law is the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users ('SAFETEA-LU', pronounced 'Safety-Loo').

SAFETEA-LU requires each LRTP to:

- Cover a minimum 20-year period,
- Be updated at certain intervals (in the case of an air quality non-attainment area such as the RFATS Study Area, every four years),
- Be 'fiscally constrained' – that is, plan on the basis of likely funding levels rather than unlimited funding levels,
- Use up-to-date planning assumptions, and
- Identify major facilities that should function as an integrated regional system.

SAFETEA-LU also specifies the planning factors that must be addressed in the planning process. The process must:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency,
- Increase the safety of the transportation system for motorized and non-motorized users,
- Increase the security of the transportation system for motorized and non-motorized users,
- Increase the accessibility and mobility of people and freight,
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns,
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight,
- Promote efficient system management and operation, and
- Emphasize the preservation of the existing transportation system.

Public Participation Activities

The public participation process for the LRTP update began with staff developing a comprehensive public participation/outreach plan which was endorsed by the RFATS Study Team, Citizens Advisory Committee, and Policy Committee in January, 2008. A series of community meetings were held in February, 2008.

Common themes arising from the meetings included the following:

- Need for improved traffic flow/ congestion mitigation,
- More east/west connectors,
- Bicycle/pedestrian access and safety,
- More pedestrian-friendly signage,
- Additional public transit options, and
- Increased attention to the US 21 corridor and Exit 90 area.



Over 60 stakeholder groups were identified and contacted during the spring of 2008 requesting their input and participation. A targeted outreach effort was conducted for transportation-disadvantaged people and people with special transportation needs. RFATS staff met with the York County Interagency Coalition, a group primarily comprised of the area's human service agencies.

Staff then assembled all of the information gathered during the public outreach process and reviewed the findings and comments with the Study Team, CAC and Policy Committee during the initial stages of developing the draft transportation needs and projects list. At the June, 2008 Policy Committee meeting, the draft transportation project list was endorsed and made available for public review and comments. A final project list was endorsed in November, 2008.

Goals and Objectives

The overall goal of the LRTP is to develop plans and strategies that promote an efficient and effective transportation system for all users in the RFATS Study Area. This goal and several related objectives guided the development of the LRTP update. These are listed below.

Highway System Goals

- Enhance mobility by improving existing roads and corridors and street connectivity.
- Maintain and protect the existing transportation system and components and require maximum efficiency and utilization of existing arterials.
- Explore improvements to the street network that will most effectively handle capacity deficiencies.
- Protect existing corridors and reserve future rights-of-way affected by both public and private development.
- Provide a safe transportation system that will focus on reducing crashes at problematic intersections and providing better facilities for pedestrians and bicyclists.
- Encourage opportunities to engage freight providers in operational and transportation system upgrade planning.

Congestion Management Goals

- Continue to support the ongoing Congestion Management Process and fully integrate congestion measures and strategies into the project selection process.
- Continue to improve traffic signalization timing in jurisdictions throughout the Study Area.
- Encourage the incorporation of access management strategies on major roads and corridors and require development to provide adequate internal circulation and connectivity to maximize linkages with other nearby development.

Transportation Alternatives Goals

- Implement transit plans and strategies that encourage a more comprehensive transit system and accommodate more riders.
- Implement land use policies to encourage transit supportive development patterns along the rapid transit corridor.
- Seek public support and funding sources needed to implement long range transit projects.
- Incorporate pedestrian and bicycle accommodations in planned improvements to roads and corridors.
- Incorporate bicycle facilities/lanes in state and local maintenance and pavement marking projects where feasible.
- Pursue strategies and funding for a coordinated and comprehensive network of sidewalks and bicycle routes throughout the Study Area.
- Require developments to provide pedestrian and bicycle facilities and connections.

Environmental Goals

- Continue to apply strategies that would improve air quality for the Study Area and result in ozone attainment status.
- Continue to seek ways to promote better integration of land use and transportation planning that will support sustainable growth patterns and maximize the transportation system.
- Encourage more efficient and compact growth in urban areas away from environmentally sensitive areas.
- Minimize environmental impacts of the transportation system with proper planning and preservation techniques of the area's natural features.
- Promote a transportation system that includes equitable options for low income and minority populations.

Public Outreach and Awareness Goals

- Continue to seek ways to educate and inform the RFATS Study Area citizens about the MPO transportation planning process and goals and encourage their participation.
- Utilize visualization techniques to illustrate and inform the public about transportation projects.
- Educate the public regarding funding needs and resources to finance a long range plan.

Key Projects

RFATS' top priorities for federally-funded projects are the Catawba River Bridge and a range of intersection improvements / congestion mitigation projects at 34 locations. The intent is to fully fund the Catawba River Bridge and to fund as many of the intersection improvements / congestion mitigation projects as possible with the remaining federal funds. Other projects are expected to be locally-funded, as shown in the tables below.

An additional project of regional importance that deserves special note, is the proposed Dave Lyle Boulevard Extension. Although currently unfunded in the 2035 Long Range Transportation Plan (LRTP), this project has been identified and discussed as a significant opportunity to improve area roadway capacity, traffic operations and regional connectivity within the RFATS Study Area.

Specifically, this project would involve widening (5 lanes) and extending Dave Lyle Boulevard from the Rock Hill Galleria Mall Area to Highway 521 in Lancaster County. When current and future congestion on Dave Lyle Boulevard as well as on important east-west corridors adjacent to Dave Lyle are taken into consideration, the potential long term value and impact of this project supports continued attention by all local governments.

It should be noted that funding for the extension of Dave Lyle Boulevard would need to come from several sources, including the State Infrastructure Bank, as well as federal, state and local agencies.

RFATS 2035 Long Range Transportation Plan Highway Projects

Approved by RFATS Policy Committee on November 21, 2008

FINANCIALLY FEASIBLE PLAN (2035)				
Ref	Project description	Funding Source	RFATS Obligation (millions)	Length (miles)
1(a)	Intersection Improvements / Congestion Mitigation Projects (TBD)	Guideshare	\$10.5	NA
1(b)	Safety / Ped / Bike Project - (SC State Trails Project – SC-5 from US-21/5 interchange to Lancaster County Line)	Guideshare	\$2.5	3.90
2	Catawba River Bridge, India Hook / Mt. Gallant to Sutton Road - Feasibility / PE / Environmental / ROW	Guideshare	\$10.5	0.10
3	Catawba River Bridge, India Hook / Mt. Gallant to Sutton Road - 5 Lane New Alignment	Guideshare	\$32.0	3.00
Total			\$55.5	
Estimate of available Guideshare funding through 2035 (\$2.819 million annually)			\$55.5	

STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP) PROJECTS				
Ref.	Project description	Funding Source	Project Obligation (millions)	Length (miles)
1	System Improvement Projects (Bridge Replacements, Safety, Road Widening, Interstate Program)	FHWA / SCDOT	\$60.0	N/A
2	Congestion Mitigation & Air Quality (CMAQ) Improvement Program	FHWA	\$8.8	N/A
3	Transportation Enhancement Program (TEP)	FHWA	\$1.3	N/A
4	Federal Transit Administration (FTA) - Trolley Town Tourist Loop	FTA	\$1.2	N/A
5	City of Rock Hill Hard Rail Trolley Study (Appropriation Earmark)	FTA	\$0.396	N/A
Total			\$71.7	

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FUNDED ONE CENT SALES TAX PROJECTS (1997)				
Ref	Project description	Funding Source	Project Obligation (millions)	Length (miles)
1	Cherry Road (York Avenue to Heckle Boulevard) - 5 Lanes	One Cent I	\$1.3	0.70
2	SC-72 (Albright Road from Black Street to Heckle Boulevard) - 5 Lanes	One Cent I	\$5.5	1.70
3	SC-901 (SC-72 to I-77) - 4 / 5 Lanes. Funded by SAFETEA-LU Earmark / SC State Infrastructure Bank	See description	\$6.5	3.00
TOTAL			\$13.3	

FUNDED ONE CENT SALES TAX PROJECTS (2003)				
Ref	Project description	Funding Source	Project Obligation (millions)	Length (miles)
1	Mt. Gallant Road (Anderson Road to SC-161 (Celanese Road) - 3 Lanes	One Cent II	\$8.5	1.00
2	Fort Mill Southern Bypass (SC-160 to US-21 Business) - 2 Lanes	One Cent II	\$15.0	5.70
3	Tega Cay / Gold Hill Connector - 2 Lanes	One Cent II	\$1.5	1.20
4	Intersection Improvements - Hwy 274 Corridor	One Cent II	\$7.1	N/A
5	US-21 (North of SC-161 to US-21 Business, including bridge cost) – Multilane	One Cent II	\$17.1	0.80
6	White Street Rail Crossing including Realignment	One Cent II	\$2.5	N/A
7	McConnells Highway (Heckle Boulevard to Highway 324) - 2/3 Lanes	One Cent II	\$7.6	0.50
8	Mt. Gallant Road (Dave Lyle Bvd to Anderson Rd) - 3 Lanes	One Cent II	\$6.8	1.50
9	Ebinport Road (Cherry Road to India Hook) - 3 Lanes	One Cent II	\$6.3	2.00
10	SC-160 (Sugar Ck. To Fort Mill Northern Bypass) - 3 Lanes	One Cent II	\$2.6	0.80
11	Riverview Road (Eden Terrace to SC-161) - Safety / Improvements	One Cent II	\$1.2	1.00
12	SC-72 Improvements (Saluda Street to Rambo Road) - 3 Lanes	One Cent II	\$6.8	2.00

13	Mt. Gallant Road, S-195 (SC-161 to Twin Lakes Road) - 3 Lanes	One Cent II	\$8.0	3.00
14	Highways 274 / 279 (Pole Branch Road)	One Cent II	\$8.6	2.40
15	Ebenezer Road (SC-161 to Frank Gaston Blvd) - 3 Lanes	One Cent II	\$4.0	1.40
16	Springhill Farm Road (US-21 to SC-51) - 5 Lanes	One Cent II	\$4.6	0.70
17	SC-51 (US-21 to NC State Line) - 5 Lanes	One Cent II	\$5.9	1.00
18	Eden Terrace (Bradley to Anderson Road) - 3 Lanes	One Cent II	\$4.5	1.50
19	SC-160 (Gold Hill Road to Zoar Road) - 3 Lanes	One Cent II	\$1.6	0.50
TOTAL			\$120.2	

PRIVATELY- FUNDED: IDENTIFIED FROM I-77 CORRIDOR TRAFFIC STUDY

Ref	Project description	Funding Source	Project Obligation (millions)	Length (miles)
1	Connect Corporate / Cel-river / and Commerce in River Walk Industrial (Developer Paid)	Private	\$4.4	1.25
2	Connect Commerce and Galleria (Developer Paid)	Private	\$5.2	0.25
3	Extend Galleria to US-21 through Antrim (Developer Paid)	Private	\$1.7	0.50
4	Connector across the Railroad between the Riverwalk Spine Road and Galleria Boulevard (Developer / City)	Private	\$2.7	0.25
5	Riverview Road Extension from Eden Terrace to Mt Gallant (Developer Paid)	Private	\$5.2	1.20
6	Eden Terrace through to Cherry Road [Riverwalk] Extension (Developer Paid)	Private	\$2.9	1.00
7	Galleria to Meeting and Cel-River @ Waterford Extension (Developer / City)	Private	\$1.8	1.25
8	Ligon Drive Extension (Developer Paid)	Private	\$0.645	0.06

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UNFUNDED TRANSPORTATION NEEDS: ROAD WIDENINGS / NEW ALIGNMENTS				
Ref	Project description	Funding Source	Project Estimate (millions)	Length (miles)
1	Mt. Gallant Road, S-195 (Twin Lakes Road to Museum Road - Phase I) - 3 Lanes *	Unfunded		2.30
2	Plantation Rd / Twin Lakes Rd (Ebenezer Rd to SC-161) *	Unfunded		0.70
3	Dave Lyle Boulevard Extension – SC-161 to US-521 Multi-laning	Unfunded	\$165.0	4.50
	(a) Cel-River - Multi-laning from SC-161 to SC-122	Unfunded		3.00
4	US-21 Bus Rapid Transit - Downtown Rock Hill to I-485	Unfunded	\$515.0	N/A
5	US-21 - Northern Fort Mill Bypass to SC 51 - Multi-laning & Right-of-Way Preservation for BRT	Unfunded	\$13.3	2.10
6	US-21 (US-21 Business to Northern Fort Mill Bypass) - Multi-laning & Right-of-Way Preservation for BRT	Unfunded	\$28.5	4.50
7	Fort Mill Southern Bypass (Phase II) – 4 Lanes	Unfunded		5.70
8	SC-160 from Gold Hill Road to NC State Line – 5 Lanes	Unfunded		9.40
9	Sutton Road S-49 (From US-21 to SC-160) - 3 Lanes	Unfunded	\$1.9	2.20
10	Mt. Gallant Road (Museum Road to SC-274 - Phase II) - 3 Lanes	Unfunded	\$6.6	2.30
11	SC-49 (Hwy 274 to Hwy 557) - 7 Lanes	Unfunded		2.00
12	Pleasant Road (SC-160 to Carowinds Boulevard) - 3 Lanes	Unfunded	\$4.5	5.10
13	Hubert Graham Parkway (Extension to Youngblood Road)	Unfunded		1.00
14	Doby's Bridge Road Widening - Phase I (SC-160 to White Road)	Unfunded		2.00
15	Doby's Bridge Road Widening - Phase II (DBR / FMSB to end of the RFATS Area)	Unfunded		3.70
16	SC-72 Multi-laning from SC-901 to Rambo Road (3 to 5 lanes) Supplement to 2003 PFP	Unfunded		2.00
17	White Street / McCammon to US-21 Bypass (Widen to 4 lanes)	Unfunded		0.94
18	Connector between Galleria Boulevard and John Ross Parkway - 4 Lanes **	Unfunded		1.50
19	India Hook from Celanese to New Bridge Connector Road - 5 Lanes **	Unfunded		3.00
20	Sutton from New Bridge Connection to US-21 and beyond - 5 Lanes **	Unfunded		2.00
	<i>* No guideshare funds available; moved to unfunded needs</i>			
	<i>** Projects #18, #19 and #20 - Identified from I-77 Traffic Study</i>			
	<i>Reflected project costs are not current</i>			

UNFUNDED TRANSPORTATION NEEDS: INTERSECTION IMPROVEMENTS				
Ref	Project description	Funding Source	Project Obligation (millions)	Length (miles)
1	Neely & Rawlsville Roads (Intersection Improvement)			N/A
2	Neely Road & Crawford Road (Intersection Improvements)			N/A
3	Dave Lyle Boulevard / Tinsley (Create dual left turn lanes on westbound Dave Lyle and northbound Tinsley)			N/A
4	Exit 90 at US-21 and I-77 (Congestion at Carowinds Boulevard)			N/A
5	Clebourne Street / Grier Street (Extension of CMS Intersection Project to improve traffic flow operation)			N/A
6	SC-160 at Steele / Bank Streets / Doby's Bridge Road			N/A
7	Exit 82C at SC-161 and I-77 (Ramp improvements needed to better facilitate southbound traffic on I-77)			N/A
8	Eden Terrace & Mt. Gallant Road			N/A
9	Robertson Road / Rambo Road Intersection Realignment			N/A
10	Cherry Road (Congestion Between Ebinport & West Main Street)			N/A
11	West Main Street / Constitution Boulevard and West Black Street			N/A
12	Saluda Road at Oakdale and Saluda Trail Middle School			N/A
13	Mt. Gallant Road at SC-161			N/A
14	Hensley Road & SC-160 (Turn Lanes)			N/A
15	Gold Hill Road and I-77 Interchange			N/A
16	US-21 / Anderson Road and East Main Street			N/A
17	Spratt Street & Fort Mill Southern Bypass Intersection			N/A
18	Market Street (Exiting I-77) at SC-160			N/A
19	India Hook / SC -161 (Turn Lanes)			N/A
20	US-21 INTERSECTIONS:			N/A
a	US-21 / Woodglenn (Northbound offset left turn lane on US-21)			N/A
b	US-21 / Stevenson / Weir (Southbound offset left turn lane and acceleration lane on US-21)			N/A
c	US-21 @ Res Dr / Hopewell Ch (SB acceleration lane from Stevenson / Weir then offset LT lane on US-21)			N/A
d	US-21 / Preston (Northbound offset left turn lane on US-21)			N/A
e	US-21 / Poverty Hill (Southbound offset left turn lane on US-21)			N/A

f	US-21 at Palmetto Hills Paintball (Southbound offset left turn lane and acceleration lane on US-21)	N/A
g	US-21 / McAllister (Southbound offset left turn lane on US-21)	N/A
h	US-21 / Liberty Hill (Northbound offset left turn lane on US-21)	N/A
i	US-21 / Emma Wood (Northbound offset left turn lane on US-21)	N/A
j	US-21 / Dot Faris (Southbound offset left turn lane on US-21)	N/A
k	US-21 / Catawba Baptist (Northbound offset left turn lane on US-21)	N/A
l	US-21 / Cannon (Southbound offset left turn lane on US-21)	N/A
m	US-21 / Benson (Northbound offset left turn lane on US-21)	N/A
n	Oakland / India Hook / Alexander (Signal / Pavement Marking Improvements)	N/A

SUB-AREA CIRCULATION AND COLLECTOR ROAD STUDIES (CMS RECOMMENDATIONS)

Ref	Project description
1	Fort Mill Southern Bypass Area
2	India Hook / Twin Lakes / Museum Road Area
3	Rawlinson Road / McConnells Road Area
4	Saluda Road Area
5	Sutton Road / Pleasant Road Area
6	Spring Hill Farm / SC-51 / Regent Park Area
7	Tega Cay Connector Extension (Zoar Road to NC-49)

Summary of Key Points and Recommendations of the Plan

The RFATS Study Area has experienced tremendous population growth over the past 20 years, with a significant growth spurt within the last seven to eight years. Based on population projections through the horizon year 2035, the RFATS Study Area is expected to exceed 200,000 people. This population increase is due in large part to its close proximity to Charlotte.

With population growth comes increased demands on the transportation system. However, funding from the state and federal levels for transportation improvements is limited and very competitive. Consequently, leaders must be very selective in identifying the top cost-effective projects for funding consideration. In addition, policy makers will

need to focus more attention on enhancing the existing transportation network, reducing congestion, and encouraging mass transit opportunities. The goals and objectives of the Plan highlight the need for transportation leaders as well as citizens of the RFATS Study Area to come together to support the Plan and funding resources which can address the regional transportation infrastructure needs. The One Cents Sales Tax initiative, Pennies for Progress, will continue to be a critical funding source for transportation improvements.

Addressing and implementing multimodal improvements will be an important step in achieving the Plan's goals and objectives. Additional interaction with and assessment of needs for the freight transportation users is anticipated. Incorporating bicycle and pedestrian accommodations in transportation facility planning and implementation was a dominant theme at public meetings. A regional assessment and inventory of existing walking and cycling facilities would be a starting point that could lead to a regional system.

With the expected population growth of the RFATS Study Area, transportation and land use coordination planning is paramount. Thoroughfare and sub-area collector road plans would help preserve new road corridors and ensure connectivity between existing and new developments. Access management standards along high profile corridors and congested areas could promote efficiency of the highway system.

To implement the LRTP, RFATS must work proactively with stakeholders. These include:

- SCDOT
- FHWA
- FTA
- EPA
- DHEC
- RFATS Communities
- Citizens, Businesses and Investors
- Technical Resource Agencies
- SC Legislative Representatives
- Neighboring Communities in Charlotte Region

Continuing coordination and information sharing will be critical to fully implement the Plan's goals and objectives.

Action Plan

The following Action Plan identifies key items and/or steps to implement the recommendations of the LRTP.

Public Awareness Actions:

1. Include an Executive Summary as well as the full Plan on RFATS website.
2. Create a user-friendly, visually enhanced brochure of the LRTP for public distribution.
3. Continue to engage the RFATS Citizen's Advisory Committee in LRTP implementation activities.
4. Share LRTP with other MPOs in the Charlotte region.

Policy Initiative Actions:

1. Work with local community leaders and businesses to continue the One Cent Sales Tax Program for transportation improvements.
2. Take a leadership role in encouraging and promoting transit opportunities in the Study Area.
3. Proactively support bicycle and pedestrian provisions with highway facility improvements. Consider supporting a Complete Streets policy that establishes the need to accommodate a well-balanced transportation system, including cyclists, pedestrians as well as vehicles.
4. Work with federal, state and local partners to address air quality issues and ensure attainment status by 2010. Develop and support policies which limit or reduce ground-level ozone pollution in the Study Area.

Highway System Actions:

1. Prepare a thoroughfare plan and targeted sub-area collector road plans identified in the Congestion Management Study to promote connectivity and efficiency of the highway network.
2. Implement access management measures and design that help protect mobility of high profile corridors.
3. Pursue funding from SCDOT for key safety improvement at identified intersections. RFATS should review its potential contribution to the eight key strategies in the statewide highway safety plan, in the context of specific needs and opportunities in the RFATS Study Area. This could lead to consideration of potential non-traditional safety projects (such as education and/or data analysis projects) as well as physical construction schemes.
4. RFATS and SCDOT should joint further develop RFATS-specific regional based safety strategies tied to specific crash locations in the RFATS Study Area. This effort should be developed in cooperation with all the local jurisdictions within RFATS. The strategies should also document and prioritize safety strategies for projected high crash locations within the RFATS Study Area.
5. Vigorously pursue all public funding sources to complete the Project List included in the Highway Element.

Bicycle and Pedestrian Accommodations Actions:

1. Support bicycle and pedestrian accommodations for state and One Cents Sales Tax road projects.
2. Pursue state, local and private funding to complete priority segments of the Carolina Thread Trail in York County.
3. Pursue Safe Routes to Schools funding for cycling and walking facilities with close proximity to public schools.
4. Prepare a regional trail map reflecting trail systems in all RFATS communities.
5. Support Bicycle Friendly Community status for Rock Hill.

Congestion Management Actions:

1. Prepare the next level of the Congestion Management Process including monitoring procedures and measures of effectiveness for the Congestion Management Network.
2. Review findings and recommendations of the Charlotte Region Managed Lanes Study and its implications for the I-77 corridor in York County.

Freight Movement Actions:

1. Prepare a comprehensive Freight Study. This would help understand the specific needs of freight shippers and receivers, as well as how the RFATS Study Area could benefit from Charlotte's existing and planned intermodal facilities. It would also include the congestion impacts of freight and corridor designated truck routes.

Public Transportation Actions:

1. Actively promote transit-supportive land use and site development within the RFATS communities, particularly along the US 21 Bus Rapid Transit (BRT) corridor.
2. Implement the action plan and phasing strategy, including funding proposals, for the US 21 BRT corridor.
3. Develop a marketing plan and tools to promote local funding support for the BRT.
4. Consider expansion of local public transportation service and facilities.