

Bus and Rail Plan In Orange County

Appendix A: Master Assumption List

Assumptions in Orange County and Durham County Financial Plans for Bus and Rail Transit

September 26, 2012

ASSUMPTIONS

	ORANGE	DURHAM
Sales Tax Growth Rate to 2015	1.00%	2.00%
Sales Tax Growth Rate 2016 and Beyond	3.60%	3.50%
Light Rail Capital Cost Responsibility (Percentage)	22.95%	77.05%
Light Rail Operating Cost Responsibility (Percentage)	23.95%	76.05%
Light Rail Capital Cost Share Based on Current Cost Estimates (\$2011 millions)	\$ 316.2	\$ 1,061.8
Light Rail Operating Cost Share Based on Current Cost Estimates(\$2011 millions)	\$ 3.46	\$ 10.98
MLK Bus Lanes Capital Cost (\$2011 millions)	\$ 22.1	NA
MLK Bus Lanes Operating Cost* (\$2011 millions)	\$ -	NA
Hillsborough Intercity Train Station Capital Cost (\$2011 <u>millions</u>)	\$ 8.0	NA
Hillsborough Intercity Train Station Operations Cost **	Not part of plan	
Amount borrowed by Triangle Transit to execute the plan (\$2011 millions)	\$25	\$165
Plan Minimum Cash Balance (\$2011 millions)	\$4.1	\$12.9

OUTCOMES

New Bus Hours in First Five Years of Plan	34,650	45,000
Total Cumulative New Bus Hours by End of Plan (Year 2035)	40,950	87,500
Opening Year for Hillsborough Intercity Train Station	2015	NA
Opening Year for MLK Bus Lanes	2019	NA
Opening Year for Light Rail	2026	2026
"Rail Dividend" Bus Hours that can be re-directed when Light Rail Opens	30,000-45,000	12,000-35,000
Plan Cash Balance in 2035 (\$2035 millions)	\$45	\$89
Plan Cash Balance in 2035 (\$2011 millions)	\$23	\$46

*MLK Bus Lanes have no operating costs because existing, already-paid-for bus services will be-re-organized to use the bus lanes

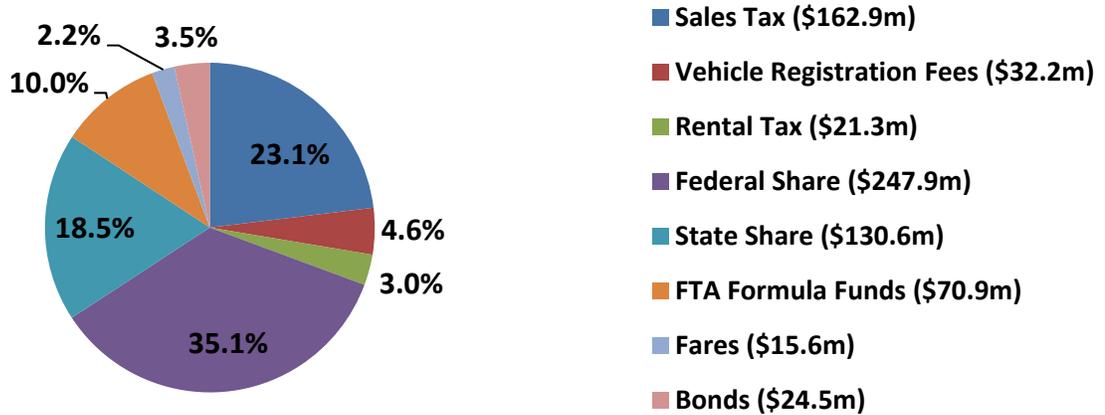
**Operations cost of Intercity Rail Station assumed to be covered in existing station plans by NCDOT Rail Division and Town of Hillsborough. Capital Cost contribution of the Orange County plan is 10% of total capital cost for Hillsborough train station.

Light green indicates updated cell or figure since previous draft

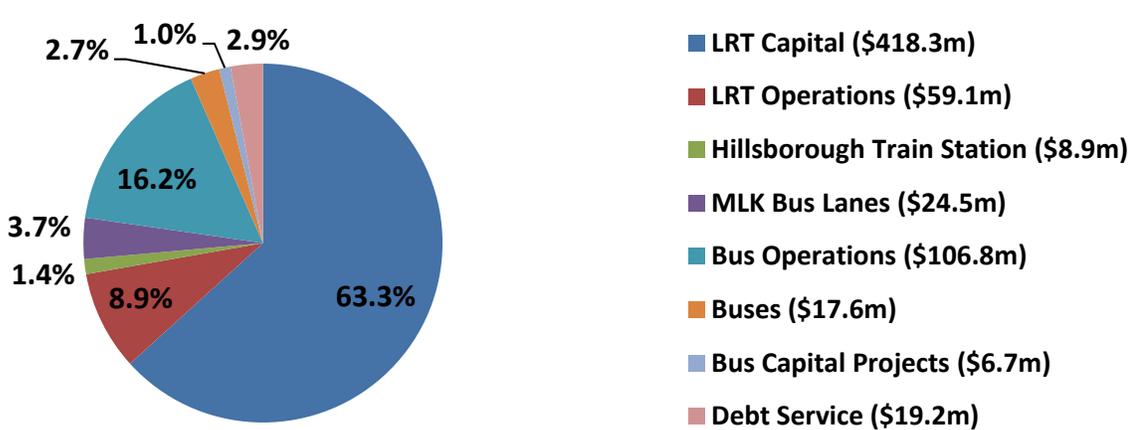
TOTAL Plan Revenues and Costs to 2035, and LOCAL Costs to 2035:

All Numbers Are in Year-Of-Expenditure (YOE) Dollars

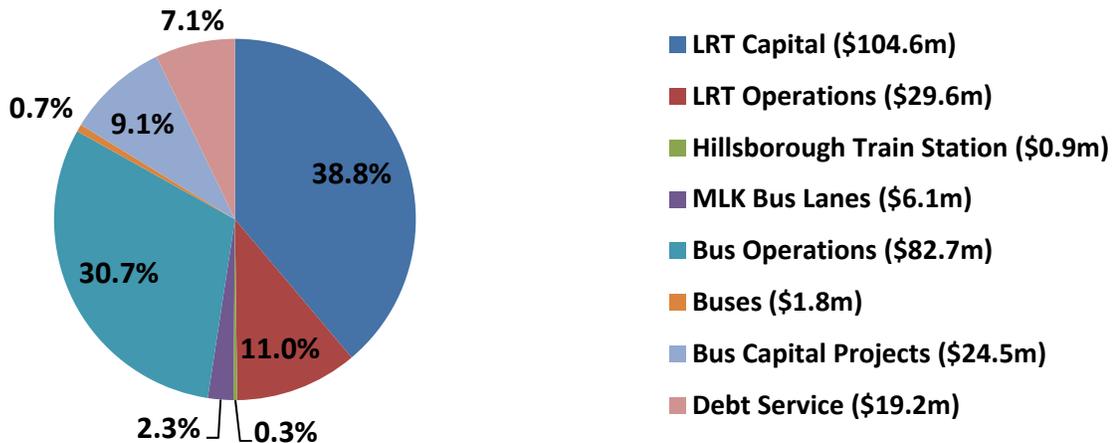
Orange County Plan Revenue, All Sources to 2035: Total Revenue \$706.0m



How ALL Dollars Are Spent to 2035: Total Cost \$659.9m



How LOCAL Orange County Dollars Are Spent to 2035: \$268.7m



Note: small differences and percentages not adding exactly to 100.0% may be due to rounding

Bus and Rail Plan In Orange County

Appendix B: Proposed Bus Service Enhancements

ORANGE COUNTY BUS PLAN - FUNDED AND FUTURE COMPONENTS

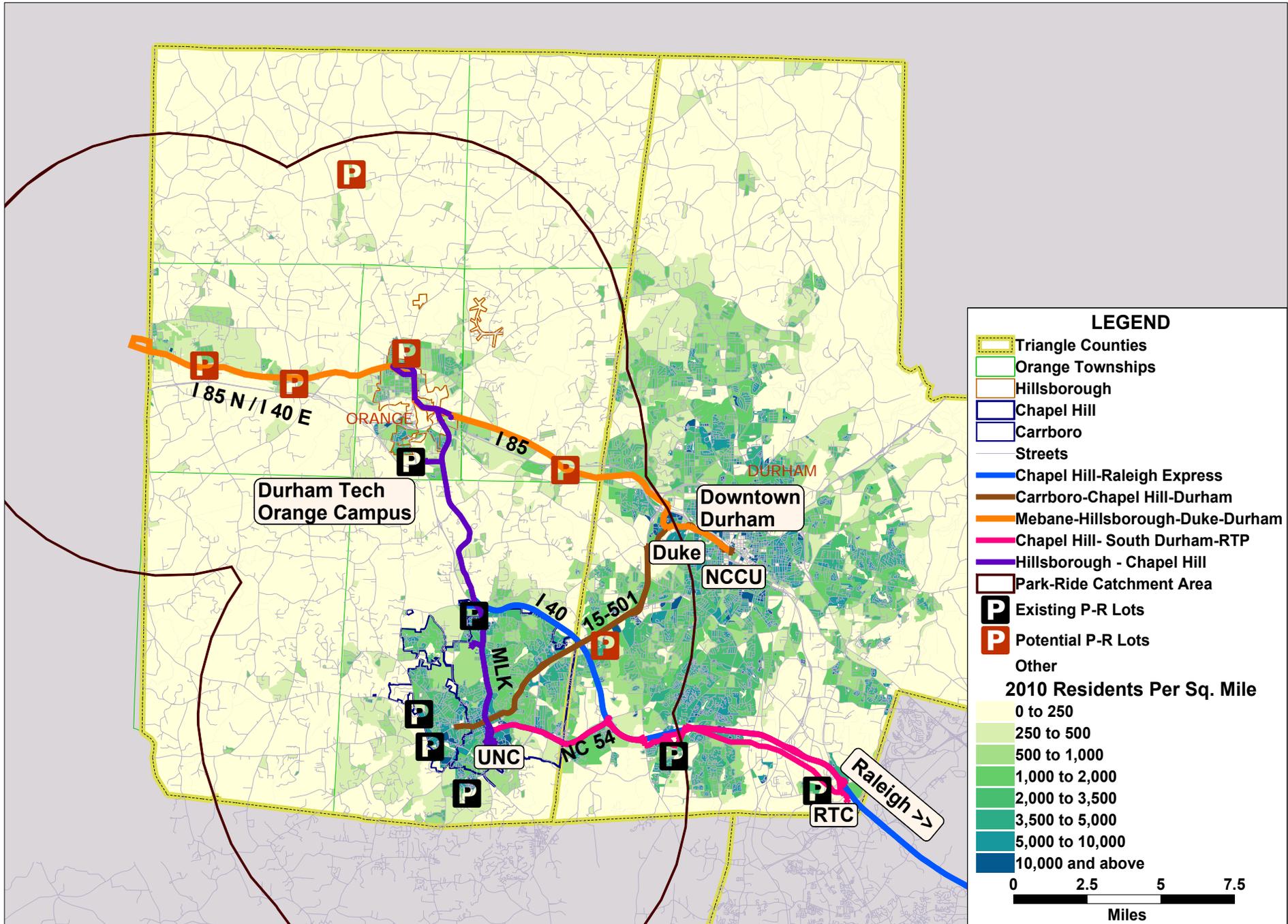
REGIONAL SERVICES - FUNDED FIRST FIVE YEARS

Service Type	PROJECTS	Enhanced or New	Cumulative New Service Hours	Service Description
Regional Exp	Carrboro-Chapel Hill-Durham Express (Route 405)	Enhanced	1,506	Increase peak-hour frequency of the express route between Durham and Chapel Hill to 15 minutes during the peak commute, directly serve Downtown Carrboro with rush hour service to Durham.
Regional Exp	Mebane-Hillsborough-Durham Express Introduce Service	New	2,510	Introduce a new express route serving Mebane, Hillsborough, and Durham.
Regional Exp	Carrboro-Chapel Hill-Durham Express (Route 405) - mid-day	Enhanced	4,016	Increase frequency of the express route between Durham and Chapel Hill or Carrboro to 30 minutes during the mid-day.
Regional Exp	Carrboro-Chapel Hill-Durham Express (Route 405) - Sundays	New	4,640	Introduce Sunday service on route between Durham and Chapel Hill or Carrboro.
Regional	Chapel Hill-Regional Transit Center via Southpoint (Route 800) - Sundays	New	5,264	Introduce new Sunday service to the existing TTA route 800.
Regional Exp	Carrboro-Chapel Hill-Durham Express (Route 405) - Saturday	Enhanced	5,484	Extend service between Durham and Chapel Hill or Carrboro to 11pm on Saturdays.
Regional	Chapel Hill-Regional Transit Center via Southpoint (Route 800) - Saturdays	Enhanced	5,704	Extend service between RTP and Chapel Hill (via Southpoint) to 11pm on Saturdays.
Regional	Route 800-SW Durham (Southpoint)-Chapel Hill peak	Enhanced	7,210	Phase 1 service improvement - increase peak hour frequency on the existing TTA Route 800. Currently the route operates at 30-minute frequency.
Regional Exp	Chapel Hill-Raleigh Express (Route CRX) - peak	Enhanced	7,963	Introduce mid-day service on the express route between Chapel Hill and Raleigh.
Regional	Hillsborough-Chapel Hill (Route 420) - peak: IMPLEMENTED in 2012	Enhanced	7,963	Increase frequency of the regional route between Hillsborough and Chapel Hill to 30 minutes during the peak commute.
Regional	Additional service Hours TBD	Enhanced	8,200	237 additional hours that may augment any of the services above

REGIONAL SERVICES - UNFUNDED, FUTURE PRIORITIES AFTER YEAR 2020

Service Type	PROJECTS	Enhanced or New	Cumulative New Service Hours	Service Description
Regional Exp	Mebane-Hillsborough-Durham Express Expansion	New	9,204	Increase the frequency on an express route serving Mebane, Hillsborough, and Durham to 30 minutes at peak.
Regional	Hillsborough-Chapel Hill (Route 420) - mid-day	Enhanced	13,722	Increase frequency of the regional route between Hillsborough and Chapel Hill to 30 minutes during the mid-day.
Regional Exp	White Cross to Carrboro to Chapel Hill Express	New	15,228	Phase I - Introduce a new express route serving Alamance County and Chapel Hill (via NC-54) at an hourly frequency.
Regional Exp	White Cross to Carrboro to Chapel Hill Express	New	16,734	Phase II - Introduce a new express route serving Alamance County and Chapel Hill (via NC-54) at a 30-minute frequency .
Regional Exp	Chapel Hill-Raleigh Express (Route CRX) - mid-day	Enhanced	18,366	Introduce mid-day service on the express route between Chapel Hill and Raleigh.
Regional	Chapel Hill-Regional Transit Center via Southpoint (Route 800) - mid-day	Enhanced	19,997	Increase frequency of the regional route between RTP and Chapel Hill (via Southpoint) to 30 minutes during the mid-day.
Regional	Route 800- RTC via SW Durham (Southpoint)-Chapel Hill peak	Enhanced	20,813	Phase 2 service improvement - increase frequency of the existing Route 800 between RTP and Chapel Hill (via Southpoint) to 15 minutes during the peak commute.
Regional	Chapel Hill-Regional Transit Center via Woodcroft (Route 805) - mid-day	Enhanced	21,691	Introduce added mid-day trips to regional route between Woodcroft and Chapel Hill.

Orange County Transit Plan: Proposed Regional Bus Service Improvements



ORANGE COUNTY BUS PLAN - FUNDED AND FUTURE COMPONENTS

HILLSBOROUGH LOCAL AND RURAL ORANGE COUNTY SERVICES - FUNDED FIRST FIVE YEARS

Service Type	PROJECTS	Enhanced or New	Cumulative New Service Hours	Service Description
Local	Hillsborough Circulator	Enhanced	2,008	Operate Hillsborough Circulator Mon-Fri, 8 hours per day
Local	Improve Service in Unincorporated Orange County	Enhanced	4,200	Improve capacity of demand response service to rural areas
Local	Hillsborough Circulator Phase 2	Enhanced	4,702	Add Saturday Service to Hillsborough Circulator
Local	Improve Service in Unincorporated Orange County	Enhanced	6,887	Further improve capacity of demand response service to rural areas

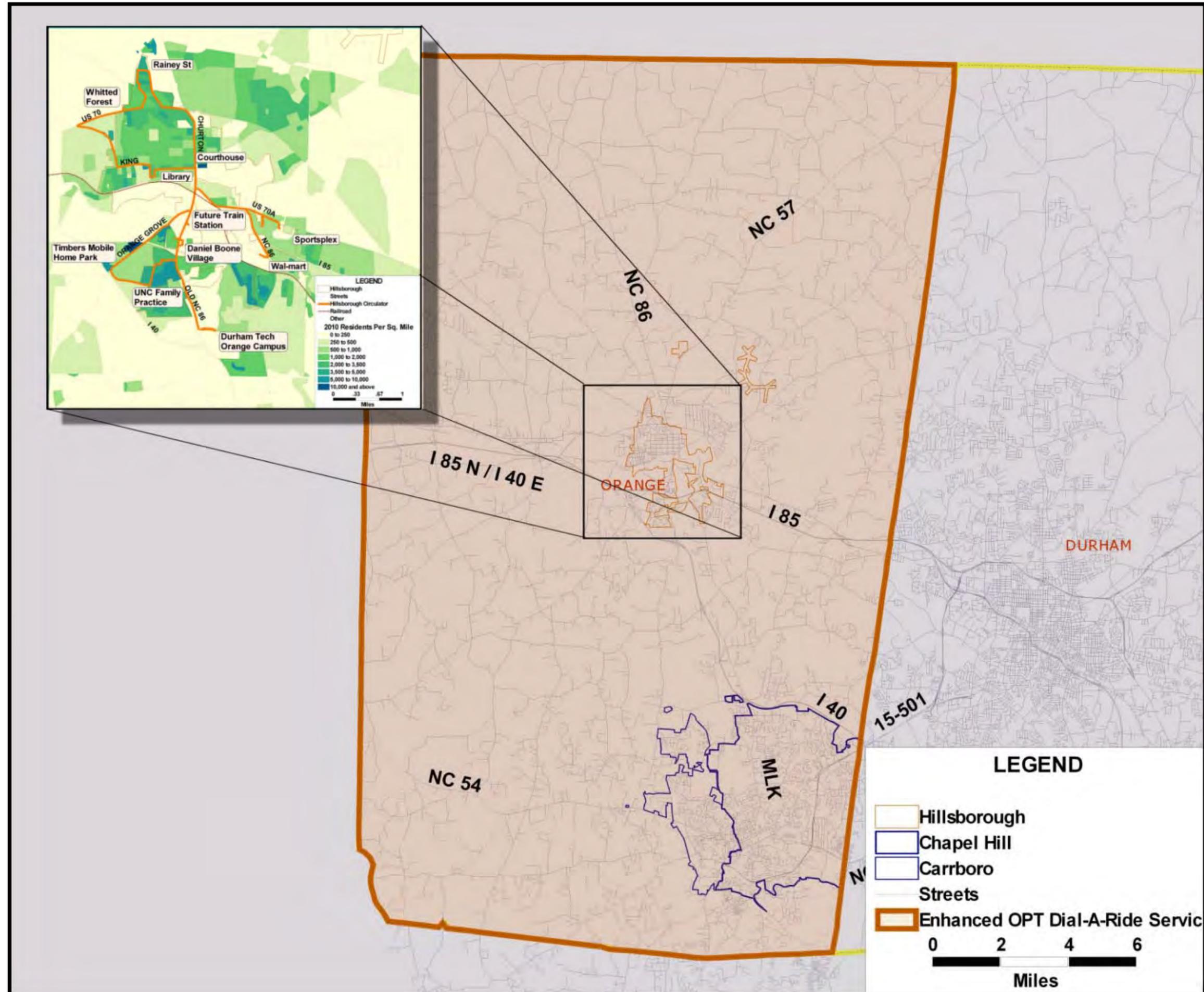
HILLSBOROUGH LOCAL AND RURAL ORANGE COUNTY SERVICES - UNFUNDED, FUTURE PRIORITIES AFTER YEAR 2020

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NA - All identified needs funded in first five years.

Prepared by Triangle Transit
April 23, 2012

Orange County Transit Plan: Proposed Hillsborough and Rural Bus Service Improvements



ORANGE COUNTY PLAN - FUNDED AND FUTURE COMPONENTS

CHAPEL HILL TRANSIT BUS SERVICE OPTIONS

Service Type	Project	Enhanced or New	Cumulative New Service Hours
Local	Service Improvements Chapel Hill, Carrboro, UNC in the 15/501 corridor	Enhanced	7,279
Local	54 Corridor Improvements (Orange and Durham Counties)	Enhanced	4,016
Local	Support existing services	Enhanced	6,000
Local	Chapel Hill - Carrboro -UNC Saturday Service	New	5,096
Sub-Total			22,391
Local	Chapel Hill - Carrboro -UNC Sunday Service	New	3,640
Local	Extend evening service in Chapel Hill Carrboro UNC	Enhanced	4,080
Regional	Pittsboro- Chapel Hill Express	Enhanced	816
Local	Improve peak hour frequency Chapel Hill Carrboro UNC	Enhanced	2,209
Total			33,136

This list of service priorities supplied by Chapel Hill Transit exceeds the 22,332 bus hour budget currently expected to be available in the plan for Chapel Hill Transit. Roughly a third of the proposed service hours will not be funded in the plan. Chapel Hill Transit and its partners will make a final determination of service priorities based on extensive public involvement and analysis in order to fit within the approximately 22,000 hour limit called for in the financially constrained plan.

Bus Operations

Total Bus Operations and Maintenance Costs by Year

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Bus Hours	9,000	15,750	24,750	34,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650
Cost (\$YOE thousands)	\$ 905	\$ 1,608	\$ 2,565	\$ 3,702	\$ 3,817	\$ 3,935	\$ 4,057	\$ 4,183	\$ 4,313	\$ 4,447	\$ 4,584	\$ 4,727

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Bus Hours	34,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650	34,650	40,950
Cost (\$YOE thousands)	\$ 4,873	\$ 5,024	\$ 5,180	\$ 5,341	\$ 5,506	\$ 5,677	\$ 5,853	\$ 6,034	\$ 6,221	\$ 6,414	\$ 7,815

Total Bus Operations \$YOE Cost to Year 2035

\$ 106,782,735

Bus Operations Costs assumed to be split according to following percentages:

Federal	8.9%
State	10.0%
Local	77.6%
Fares	3.5%

Bus and Rail Plan In Orange County

Appendix C: Bus Capital Enhancements

Bus Capital and Vehicle (Bus) Purchases/Replacements

Total Bus Purchases (New and Replacement Buses)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
New Buses Purchased	4	3	4	4	-	-	-	-	-	-	-	-
Replacement Buses Purchased												
Cost (\$YOE thousands)	1,606	1,222	1,654	1,876	-	-	-	-	-	-	-	-

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
New Buses Purchased	-	-	-	-	-	-	-	-	-	-	3
Replacement Buses Purchased	4	3	4	4	-	-	-	-	-	-	-
Cost (\$YOE thousands)	2,245	1,736	2,386	2,706	-	-	-	-	-	-	2,132

Total Bus Purchases \$YOE Cost to Year 2035

\$ 17,564,162

Total Bus Capital Project Spending (Amenities, Transit Centers, Park/Ride Lots, Sidewalks, etc)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cost (\$YOE thousands)	656	2,664	3,379	-	-	-	-	-	-	-	-	-

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Cost (\$YOE thousands)	-	-	-	-	-	-	-	-	-	-	-

Total Bus Capital Projects \$YOE Cost to Year 2035

\$ 6,699,000

Bus Purchases and Bus Capital projects assumed to be split according to current trend:

Federal	80%
State	10%
Local	10%

Bus and Rail Plan In Orange County

Appendix D: Hillsborough Train Station Expenditures

Hillsborough Intercity Rail Station

Total Rail Station Construction Costs by Year

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cost (\$YOE thousands)	\$ 875	\$ 3,552	\$ 4,506	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Cost (\$YOE thousands)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Total Hillsborough Intercity Rail Station \$YOE Cost to Year 2035

\$ 8,932,229

Hillsborough Rail Station assumed to be split according to pattern for other NCDOT Rail Division-approved stations

Federal	80%
State	10%
Local	10%

NCDOT Rail Division has studied two possible station designs. The option in the plan includes a permanent station. A modular, temporary station can be built for less money, approximately \$4 million in \$2011 dollars. Examples of the type of station the \$8.9 million YOY dollar investment projected above would build can be found in Cary and Kannapolis.

Bus and Rail Plan In Orange County

Appendix E: MLK Bus Lanes Expenditures

MLK Bus Lane Project

Total MLK Bus Lane Project Costs by Year

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cost (\$YOE thousands)	\$ 694	\$ 704	\$ 4,007	\$ 7,456	\$ 7,892	\$ 3,703	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Cost (\$YOE thousands)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Total MLK Bus Lane \$YOE Cost to Year 2035

\$ 24,456,259

Project Costs are anticipated to follow the percentages below within the FTA Small Starts program

Federal	50%
State	25%
Local	25%

Bus and Rail Plan In Orange County

Appendix F: Light Rail Expenditures

Durham-Orange Light Rail Expenditures: Capital & Operating to 2035

Total Light Rail Capital Spending

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cost (\$YOE thousands)	\$ 3,258	\$ 3,306	\$ 5,034	\$ 3,460	\$ 3,567	\$ 5,517	\$ 16,757	\$ 28,530	\$ 31,211	\$ 68,984	\$ 120,898	\$ 96,797

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Cost (\$YOE thousands)	\$ 31,009	-	-	-	-	-	-	-	-	-	-

Total Bus Purchases \$YOE Cost to Year 2035

\$ 418,327,293

Total Light Rail Operations Spending

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cost (\$YOE thousands)	-	-	-	-	-	-	-	-	-	-	-	-

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Cost (\$YOE thousands)	-	\$ 5,135	\$ 5,294	\$ 5,458	\$ 5,627	\$ 5,802	\$ 5,982	\$ 6,167	\$ 6,358	\$ 6,555	\$ 6,759

Total Light Rail Operations \$YOE Cost to Year 2035

\$ 59,136,705

The capital cost of the Durham-Orange Light Rail project is anticipated to be split as follows:

Federal	50%
State	25%
Local	25%

The operating cost of the Durham-Orange Light Rail project is anticipated to be split as follows:

Federal	20%
State	10%
Local	50%
Fares	20%

Bus and Rail Plan In Orange County

Appendix G: Revenues by Year

Orange County Plan Revenues

Total Orange County Revenues by Year (\$YOE millions)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1/2-Cent Sales Tax*	\$ 3.9	\$ 5.0	\$ 5.0	\$ 5.2	\$ 5.4	\$ 5.6	\$ 5.8	\$ 6.0	\$ 6.2	\$ 6.5	\$ 6.7	\$ 6.9
\$7 Vehicle Registration Fee*	\$ 0.6	\$ 0.8	\$ 0.8	\$ 0.8	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 0.9	\$ 1.0	\$ 1.0
\$3 Vehicle Registration Fee*	\$ 0.3	\$ 0.3	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.4
Car Rental Tax (existing)	\$ 0.6	\$ 0.6	\$ 0.6	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.7	\$ 0.8	\$ 0.8	\$ 0.8	\$ 0.9	\$ 0.9
FTA Formula Funds	\$ 2.3	\$ 2.4	\$ 2.4	\$ 2.5	\$ 2.6	\$ 2.6	\$ 2.7	\$ 2.8	\$ 2.8	\$ 2.9	\$ 3.0	\$ 3.0
Federal Projects Share	\$ 4.5	\$ 8.0	\$ 12.2	\$ 7.0	\$ 5.7	\$ 4.6	\$ 8.4	\$ 14.3	\$ 15.6	\$ 34.5	\$ 60.4	\$ 48.4
State Projects Share	\$ 1.4	\$ 1.9	\$ 3.5	\$ 3.3	\$ 3.2	\$ 2.7	\$ 4.6	\$ 7.6	\$ 8.2	\$ 17.7	\$ 30.7	\$ 24.7
Fares	\$ 0.0	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.2	\$ 0.2	\$ 0.2	\$ 0.2
Bond Proceeds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.8	\$ 17.6
Total Revenue By Year	\$ 14.4	\$ 20.2	\$ 26.2	\$ 21.1	\$ 20.2	\$ 18.9	\$ 24.9	\$ 34.1	\$ 36.5	\$ 65.2	\$ 110.4	\$ 104.5

Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	TOTAL
1/2-Cent Sales Tax	\$ 7.2	\$ 7.4	\$ 7.7	\$ 8.0	\$ 8.3	\$ 8.6	\$ 8.9	\$ 9.2	\$ 9.5	\$ 9.9	\$ 10.2	\$ 162.9
\$7 Vehicle Registration Fee	\$ 1.0	\$ 1.0	\$ 1.0	\$ 1.1	\$ 1.1	\$ 1.1	\$ 1.1	\$ 1.1	\$ 1.2	\$ 1.2	\$ 1.2	\$ 22.5
\$3 Vehicle Registration Fee	\$ 0.4	\$ 0.4	\$ 0.4	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 0.5	\$ 9.7
Car Rental Tax (existing)	\$ 0.9	\$ 1.0	\$ 1.0	\$ 1.0	\$ 1.1	\$ 1.1	\$ 1.2	\$ 1.2	\$ 1.3	\$ 1.3	\$ 1.4	\$ 21.3
FTA Formula Funds	\$ 3.1	\$ 3.2	\$ 3.3	\$ 3.4	\$ 3.4	\$ 3.5	\$ 3.6	\$ 3.7	\$ 3.8	\$ 3.9	\$ 4.0	\$ 70.9
Federal Projects Share	\$ 17.3	\$ 1.4	\$ 1.9	\$ 2.2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.7	\$ 247.9
State Projects Share	\$ 8.5	\$ 1.2	\$ 1.3	\$ 1.4	\$ 1.1	\$ 1.1	\$ 1.2	\$ 1.2	\$ 1.3	\$ 1.3	\$ 1.7	\$ 130.6
Fares	\$ 0.2	\$ 1.2	\$ 1.2	\$ 1.3	\$ 1.3	\$ 1.4	\$ 1.4	\$ 1.4	\$ 1.5	\$ 1.5	\$ 1.6	\$ 15.6
Bond Proceeds	\$ 1.2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 24.5
Total Revenue By Year	\$ 41.2	\$ 18.3	\$ 19.4	\$ 20.2	\$ 18.3	\$ 18.9	\$ 19.5	\$ 20.1	\$ 20.7	\$ 21.3	\$ 24.1	\$ 706.0

Total Orange County Transit Plan \$YOE Revenue to Year 2035

\$ 706,000,000

*Revenue in first year is 75% of full value because revenue source is anticipated to be active on 4/1/2013, not 1/1/2013