



DURHAM COUNTY TRANSIT PLAN Process and Engagement Update

Durham Board of County Commissioners
January 6, 2020

AGENDA

- A. What have we heard from engagement efforts to date
- B. Key Items to Address in early 2020
 - Amendments to FY19-20 Work Plan
 - FY20-21 Work Plan
 - Upcoming Interim Decisions
- C. Preliminary Results from the Greater Triangle Commuter Rail Study:
Alternatives Analysis Update and Further Study
- D. Update on previous requests

A. ENGAGEMENT TO DATE

- Listening and Learning Sessions
- Short Range Service Plan
- Move Durham
- Rider and Community Surveys
- FY20 Work Plan; 2017 Transit Plan

A. WHAT WE'VE HEARD TO DATE

Themes to inform the Community Transit Goals and Equity Principles:

- Improve Frequency
- Improve Geographic Coverage
- Environmentally Friendly Transit
- Improve Regional Connectivity
- Improve Bus Stop Infrastructure
- Ensure Transit is Affordable to All
- Improve Connectivity to Bus Stops
- Improve Information and its Communication
- Ensure Safe Travel for Youth
- Expand Paratransit Services

B. PREVIOUS FY20 WORK PLAN AMENDMENTS

IN PROGRESS:

- GoDurham increased service frequency on top five routes (by ridership) on nights and Sundays (2020)
- Purchase Durham County Access vehicles (2020)
- Mobile ticketing (Summer 2020)

Each of these previously approved work plan amendments addresses responses we have heard from engagement efforts to date.

B. UPCOMING FY19-20 WORK PLAN AMENDMENTS [Now until June 30, 2020]

What / When

- Amendments to the Work Plan \$ allocations for this fiscal year.
- DECISION: Feb 26 GoTriangle board
- **Amendment applications due: NOW**

*This project would also require Durham BOCC and MPO board approvals of Transit Plan amendments

Possible Amendments:

- Commuter rail early project development activities*
- Bus Stop and access improvements
- Expand Fayetteville St., Holloway St., and Chapel Hill Rd. Transit Emphasis Corridor projects
- Bus speed and reliability improvements
- Mobility and travel demand management options to support emerging job centers (e.g. Treyburn)
- Fleet renewal and expansion

**Due:
NOW**

DECISION: Feb 26

Draft Plan
NOV 2020

Complete:
early 2021

TRANSIT PLAN UPDATE

GO FORWARD
A COMMUNITY INVESTMENT IN TRANSIT

B. UPCOMING FY20-21 WORK PLAN [July 1, 2020 - June 30, 2021]

What / When

- Transit Plan \$ allocations for next year
- DECISION: Jun 24 GoTriangle board
- DECISION: Jun 10 MPO board
- DECISION: Jun 8 Durham BOCC
- Apr 29 GoTriangle budget WS
- **Draft work plan for review: Mar**
- **Project applications due: Mid Feb**

Possible Work Plan Projects

- Commuter rail early project development activities
- Bus Stop, facility, and access improvements
- Expand Fayetteville St., Holloway St., and Chapel Hill Rd. Transit Emphasis Corridor projects
- Construction of bus speed and reliability improvements
- Additional fleet renewal and expansion
- Bus + ACCESS service expansion

DUE: Feb

DECISIONS: June

Draft Plan
NOV 2020

Complete:
early 2021

TRANSIT PLAN UPDATE

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B. INTERIM DECISIONS FOR MID- TO LONG- TERM PROJECTS

- **FY 19-20 Work Plan Amendments:** Winter 2020 [Durham Transit Plan*]
 - **Additional CRT Study:** Winter 2020 [County Transit Plans*]
- **FY 20-21 Work Plan:** Spring 2020 [Durham Transit Plan*]
- **SPOT 6.0:** Spring 2020 [NCDOT prioritization process for state funding]
- **Pipeline Highway Projects:** Timing uncertain [NCDOT]
- **2050 Metropolitan Transportation Plan:** Ongoing; transit network decisions needed by Summer of 2021 [MPO + Federal requirement]
- **FY 21-22 Work Plan:** Winter - Spring 2021 [Durham Transit Plan*]

*CRT is an example of a cross-county / regional project. There are many regional projects that require coordination among county transit plans during work plan development and adoption.

C. Greater Triangle Commuter Rail Study



Update of Alternatives
Analysis and Further Study

Draft/Preliminary
Findings Snapshot

Why Is This Study Being Conducted?

- Give decision-makers the data needed to decide whether to take the project to the next phase of development
- Examine scenarios adding Johnston County/Selma and Orange County/Mebane
- Refresh and update ridership estimates, infrastructure assumptions, and cost estimates that were included in prior high-level planning studies
- Identify additional activities necessary before a project could be submitted into the federal New Starts program

Finding: All Scenarios Necessitate Another Track

- Existing/Planned Traffic
 - 27 freight and intercity passenger trains per day
- Scenario 1: Three round trips in the peak periods
 - +14 commuter trains per day (7 round trips)
- Scenario 2: Five round trips in the peak periods
 - +24 commuter trains per day (12 round trips)
- Scenario 3: Eight round trips in the peak periods
 - +40 commuter trains per day (20 round trips)

This is a Preliminary Feasibility Study

- Further detailed railroad capacity modeling would be needed to confirm infrastructure requirements
- Cost estimates require further definition
 - Cost estimates are planning-level
 - No engineering has been performed yet as part of this study
 - Cost estimates will be refined once preliminary engineering work and railroad capacity modeling is completed
- Ridership would require further refinement
 - Detailed testing and further vetting

Evaluated Six Initial Scenarios, Adding Two More

Geography	Weekday Round Trips	Service Pattern	Range of Cap. Cost* [YOE\$]	O&M Cost [2019\$]	Range of Ridership**
Durham-Garner	20	8-2-8-2	\$1.4B – \$1.8B	\$29M	7.5K – 10K
Durham-Garner	12	5-1-5-1	\$1.4B – \$1.8B	\$20M	5K – 7.5K
Durham-Garner	7	3-1-3	\$1.4B – \$1.7B	\$13M	4.5K – 6K
Mebane-Selma	20	8-2-8-2	\$2.5B – \$3.2B	\$57M	8K – 11.5K
Mebane-Selma	12	5-1-5-1	\$2.5B – \$3.2B	\$40M	6K – 9K
Mebane-Selma	7	3-1-3	\$2.3B – \$3.1B	\$26M	5K – 7.5K
Hillsb.-Clayton	20	8-2-8-2	TBD***	\$44M (+\$15M)	TBD***
Durham-Clayton	20	8-2-8-2	TBD***	\$37M (+\$8M)	TBD***

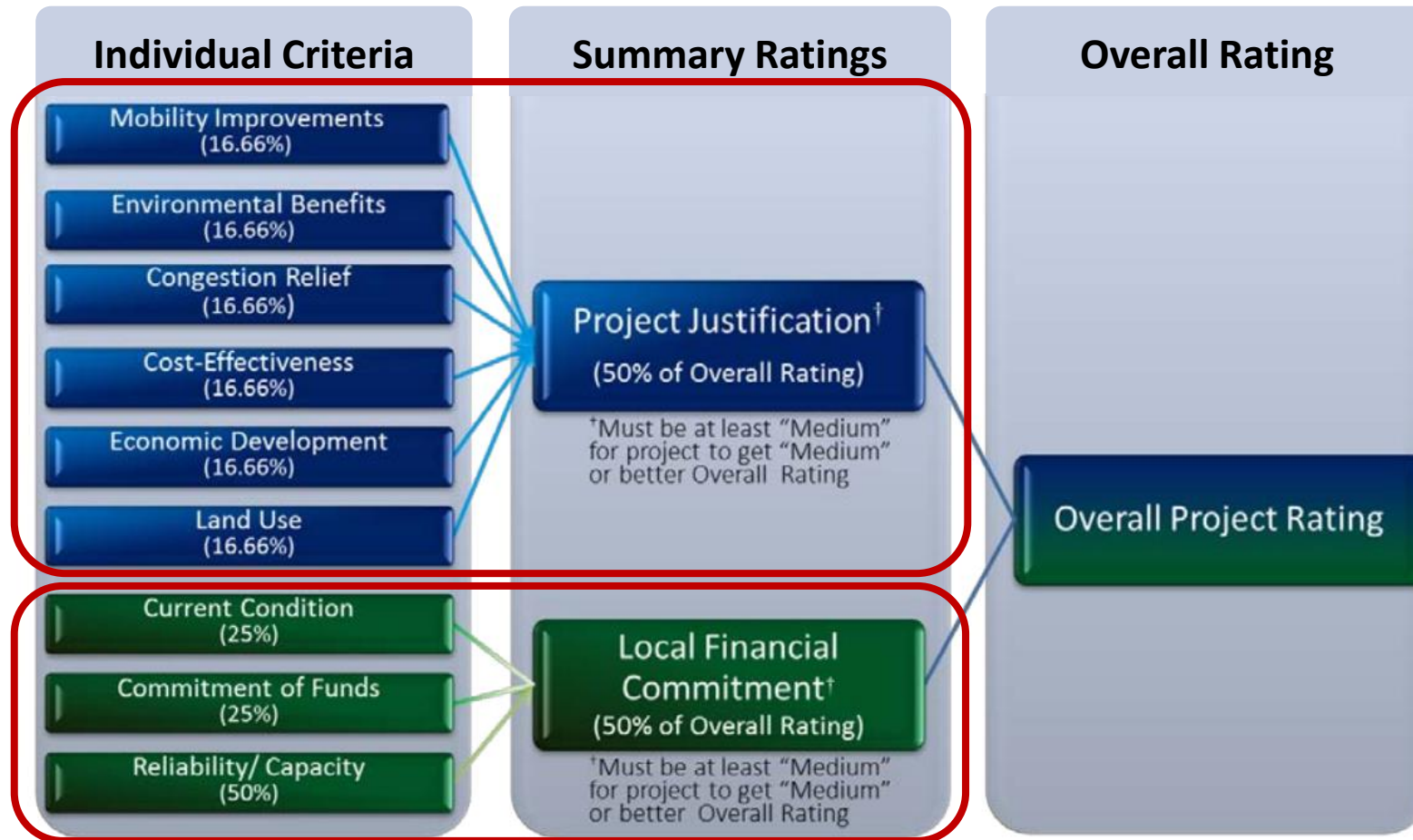
- Current Wake Transit Plan assumes \$1.33B capital cost for Durham-Garner 8-2-8-2
- Scenarios that include a Durham to Clayton route and a Hillsborough to Clayton route are being evaluated now, and those results are expected later in January

*Cost: Year-of-Expenditure Dollars (YOE\$)

**Daily Ridership: Average of Current Year and Horizon Year Forecast

***Additional analysis needed to obtain outputs for these scenarios

Federal Criteria: Must Score Medium in Both Categories



Driven by Six Project Justification Factors

Criterion	Description
<u>Criteria Based on Cost Estimates and Ridership Modeling</u> <i>Calculated Based on Average of Current Year (2018) and Horizon Year (2040) Models</i>	
Mobility Improvements	Total annual trips on the project, with trips of riders from zero-car households doubled
Environmental Benefits	Monetized benefit of change in vehicle miles traveled, divided by annualized cost (capital and O&M)
Congestion Relief	New weekday trips on the project
Cost Effectiveness	Total annual project trips divided by annualized cost (capital and O&M)
<u>Criteria Based on Corridor Characteristics</u>	
Economic Development	Qualitative score based on city and county- adopted plans and policies, their performance, the potential of the project to impact development patterns and affordable housing plans and policies.
Land Use	Quantitative and qualitative score based on existing station area population density, jobs, affordable housing, central business district parking ratio and cost, and built environment characteristics

Lower Service and Higher Cost Scenarios Do Not Score Well

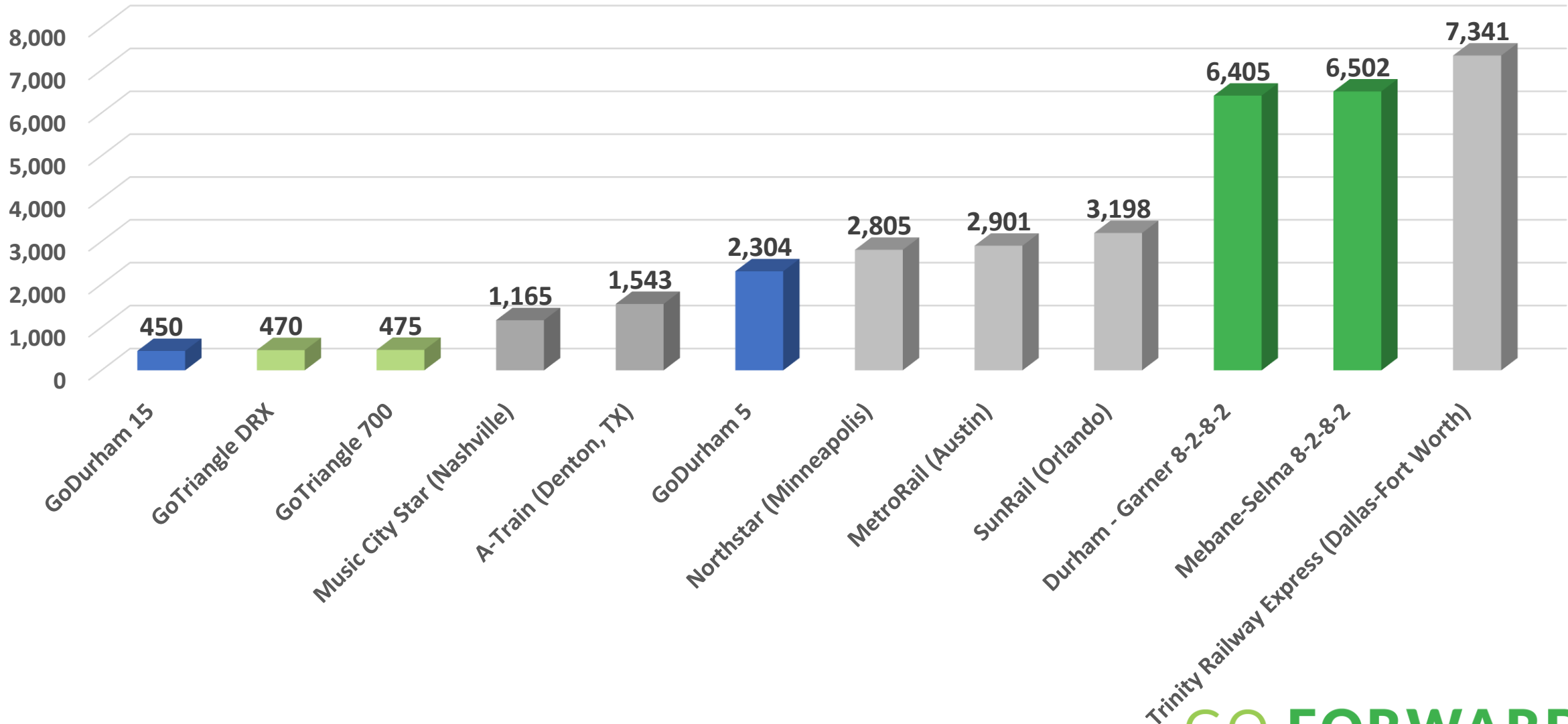
End Points	Weekday Round Trips	Service Level	Expected Score	“Upside” Score	“Downside” Score
Mebane-Selma	20	8-2-8-2	Medium-Low	Medium	Medium-Low
Mebane-Selma	12	5-1-5-1	Medium-Low	Weak Medium	Medium-Low
Mebane-Selma	7	3-1-3	Medium-Low	Weak Medium	Medium-Low
Durham-Garner	20	8-2-8-2	Medium	Medium	Medium-Low
Durham-Garner	12	5-1-5-1	Weak Medium	Weak Medium	Medium-Low
Durham-Garner	7	3-1-3	Weak Medium	Weak Medium	Medium-Low
Hillsb.-Clayton	20	8-2-8-2	TBD*	TBD*	TBD*
Durham-Clayton	20	8-2-8-2	TBD*	TBD*	TBD*

***Further analysis of travel demand modeling for this scenario is required to determine expected score**

Note: Scenarios rated as “Weak Medium” are projected to score at the low end of the Medium range, meaning that if any single component score is reduced, the overall score would fall below the eligibility requirements

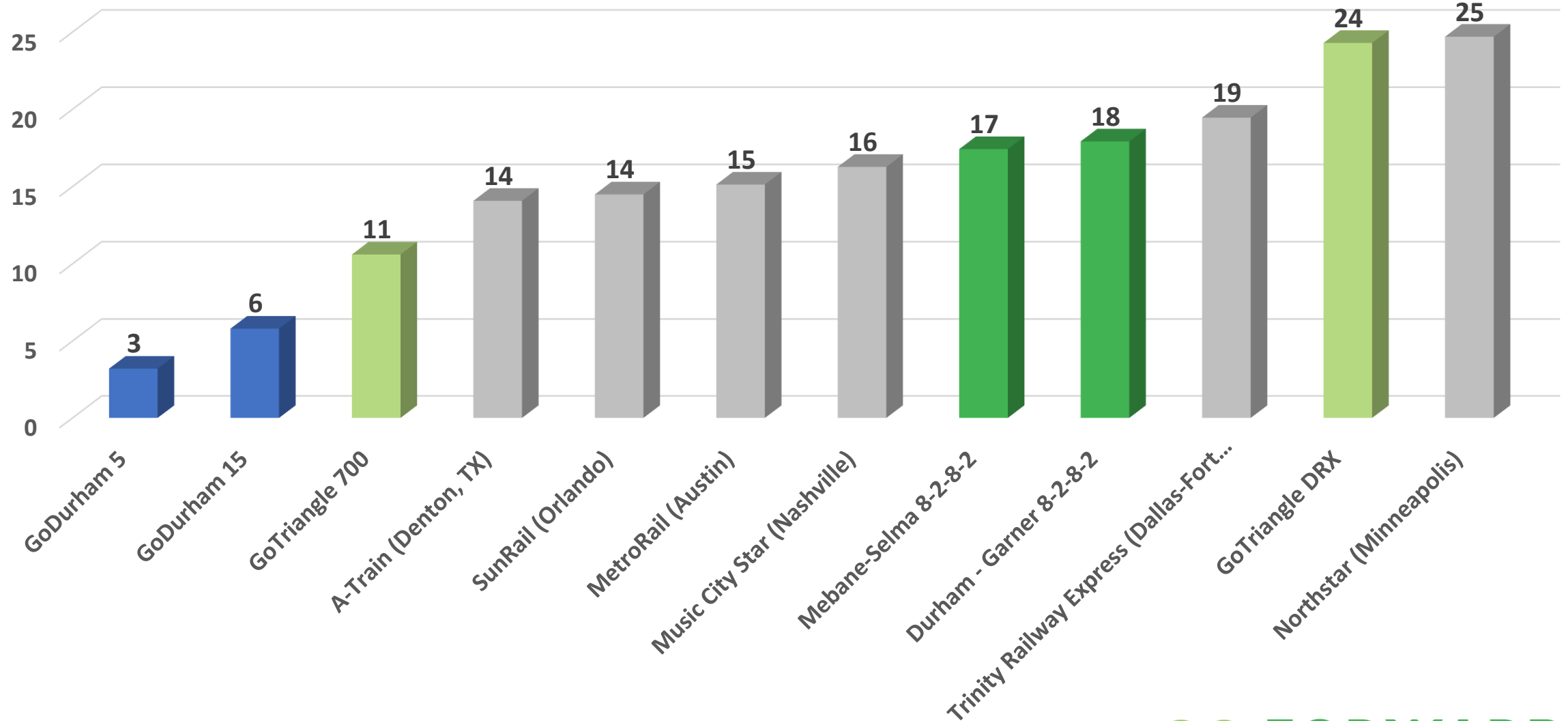
To be eligible for federal funding, project must score a Medium rating

Average Weekday Trips (2018)



Average Weekday Ridership for 2018.
Source: NTD 2018 and GoTriangle FY2018 Bus Performance Report.

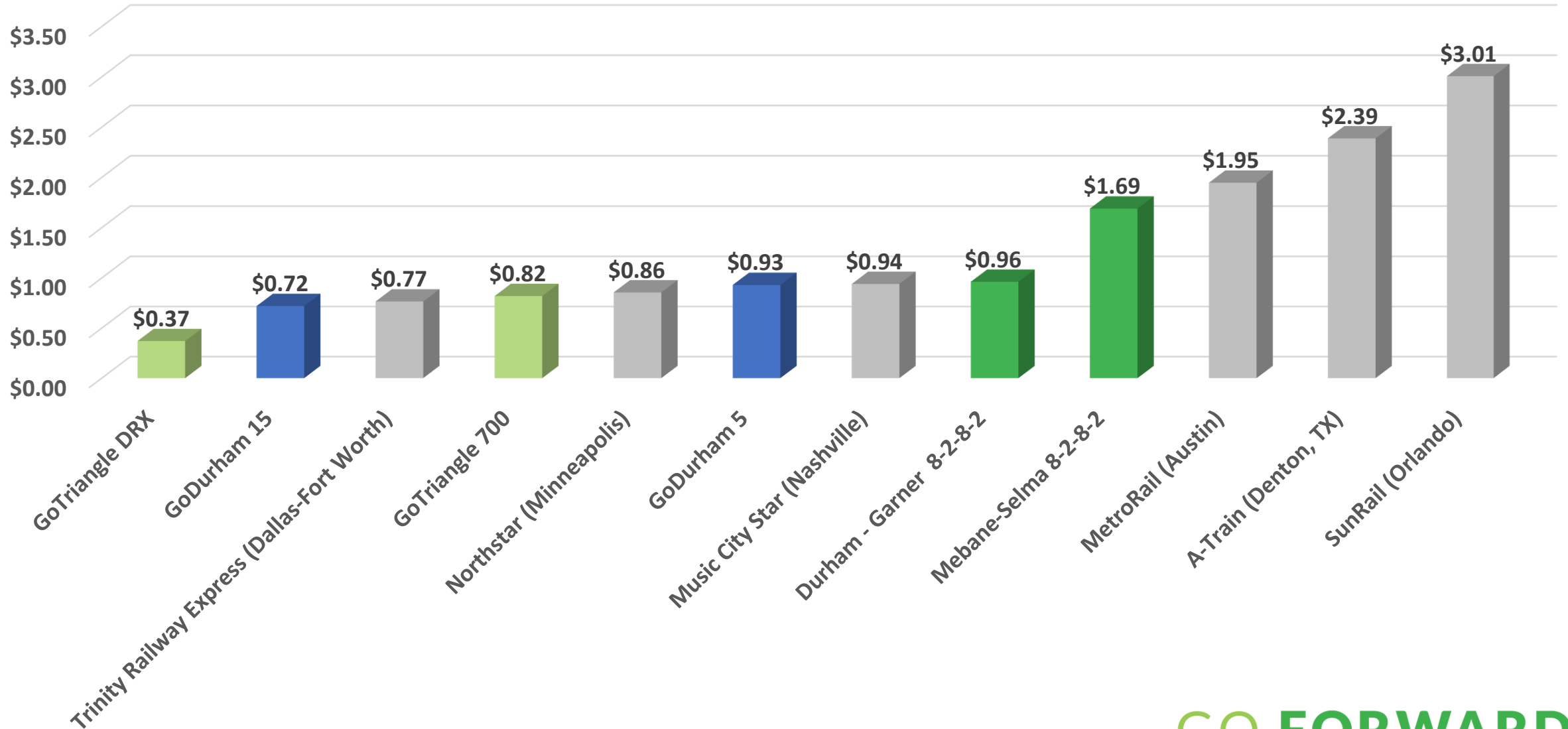
Average Trip Length (miles)



Average Unlinked Trip length.

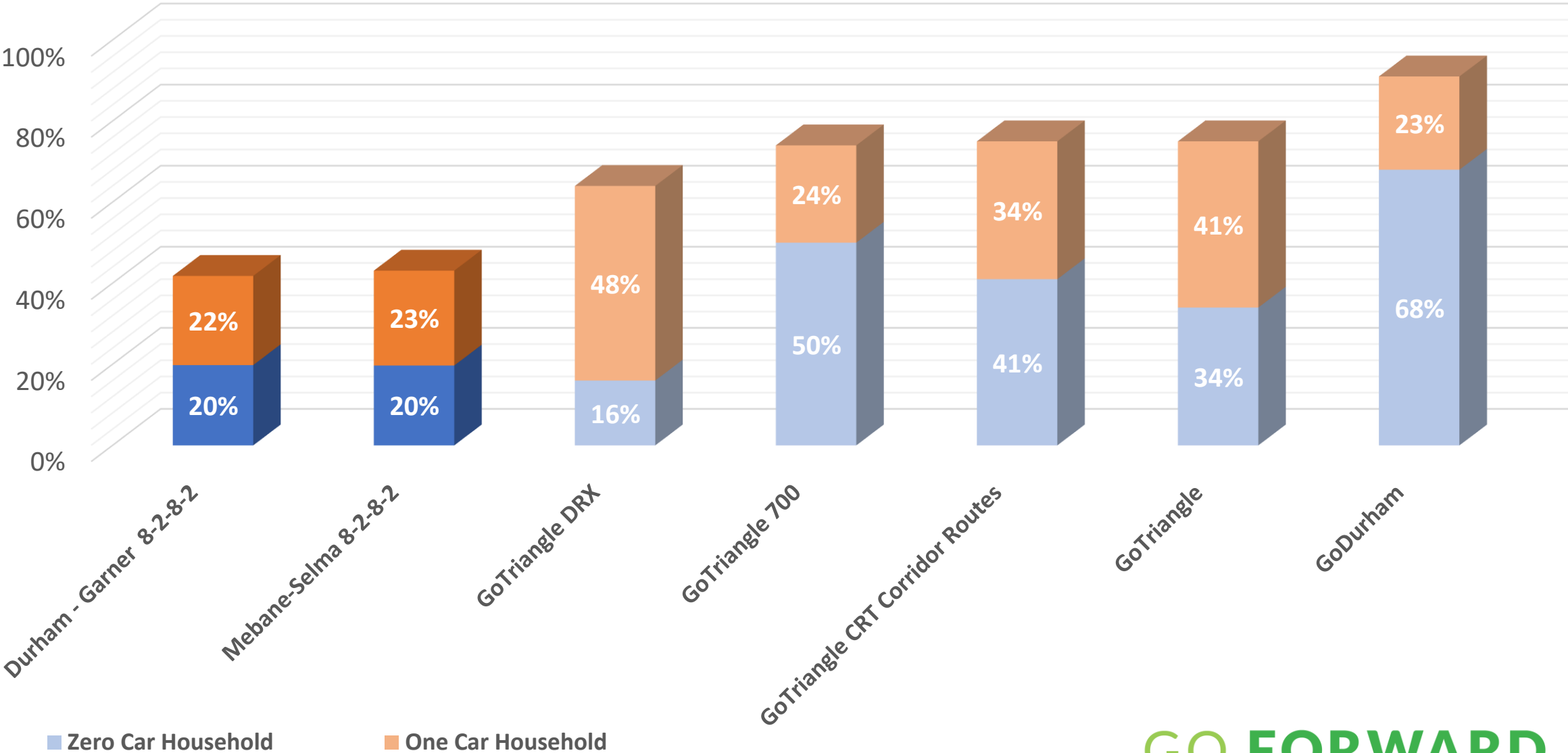
Source: NTD 2018 and GoTriangle FY2019 Bus Operations Report.

Operating Cost (2019) / Annual Passenger Miles Traveled (2018)



Average System Operating Cost in 2019\$ divided by total annual passenger miles traveled
Source: NTD 2018, and GoTriangle FY19 Bus Operations Report

Percentage of Riders from Zero Car and One Car Households



Source: 2018 GoTriangle and GoDurham onboard surveys. 2016 GoTriangle Onboard survey.

Selected Durham trips and AM travel time savings

FROM*	TO**	Estimated Trips** * (From Current Study)	Bus Travel Time Savings (From 2019 MIS Report)
Durham Station	Cary Station	250 - 350	60 minutes
Durham Station	NCSU	175 - 250	TBD
East Durham	Raleigh Union	200 - 300	TBD
Ellis Road	NCSU	275 - 400	TBD
RTP (Slater Road)	Durham Station	275 - 400	15 minutes
RTP (Slater Road)	Raleigh Union	200 - 300	15 minutes
Cary Station	Durham Station	200 - 300	25 minutes
Garner	Durham Station	100 - 150	40 minutes

PRELIMINARY

Draft ridership estimates subject to additional refinement

High level travel-time savings are from the 2019 CRT MIS and are also subject to refinement

*Trip productions (typically, for CRT, the station where a rider gets on the train in the morning)

**Trip attractions (typically, for CRT, the station where a rider gets off the train in the morning)

***This counts the AM trip and PM return trip as two trips. To get daily round trips divide this figure by two.

Types of Risks

- **Requirements Risk:**
 - Difficulty of succinctly and fully developing project requirements
 - Differences in project stakeholder goals
- **Design Risk:**
 - Design-related assumptions change
 - Situations where unknown factors cause designs to change
- **Market Risk:**
 - Open market pricing and/or contract packaging strategies
- **Construction Risk:**
 - Site activities
 - Coordination of contractors

Risk Assessment



- Public Participation Process
 - Equitable Community Engagement Blueprint
 - Seek Resident Input Before Options Are Limited
- Inclusion of Municipal Governments as Partners
 - City of Durham
 - City of Raleigh
 - Other cities and towns in the five counties along the potential alignment
- Roadway Interfaces
 - Grade Crossings
 - Bridge Clearances
- Apportioning Capital and Operating Costs

Upcoming Decision to Undertake Additional CRT Study

Timeline

- Brief Durham CRT partners:
 - Durham BOCC: Today
 - DCHC MPO board: Jan 15
 - Joint MPO boards: Jan 30
- **Possible Durham Decision Dates*:*
 - Durham BOCC: Feb 3
 - DCHC MPO: Feb 12
 - GoTriangle board: Feb 22

\$2-3 million request of Durham Transit Plan

- Rail Traffic Controller (RTC) model
- Preliminary engineering to evaluate key risks (e.g. Downtown Durham grade crossings)
- Additional ridership modeling
- Public engagement, integrated with ENGAGEDurham

Early Project Development activities; prior to decision to enter FTA New Starts program



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Questions