



Connecticut Department of Transportation

Transit Asset Management Gap Assessment



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- CTDOT Bureau of Public Transportation Overview
- Transit Service in CT
- Gap Assessment Project Objectives
- Self-Assessment Results
- Gap Assessment Results
- Draft Implementation Plan



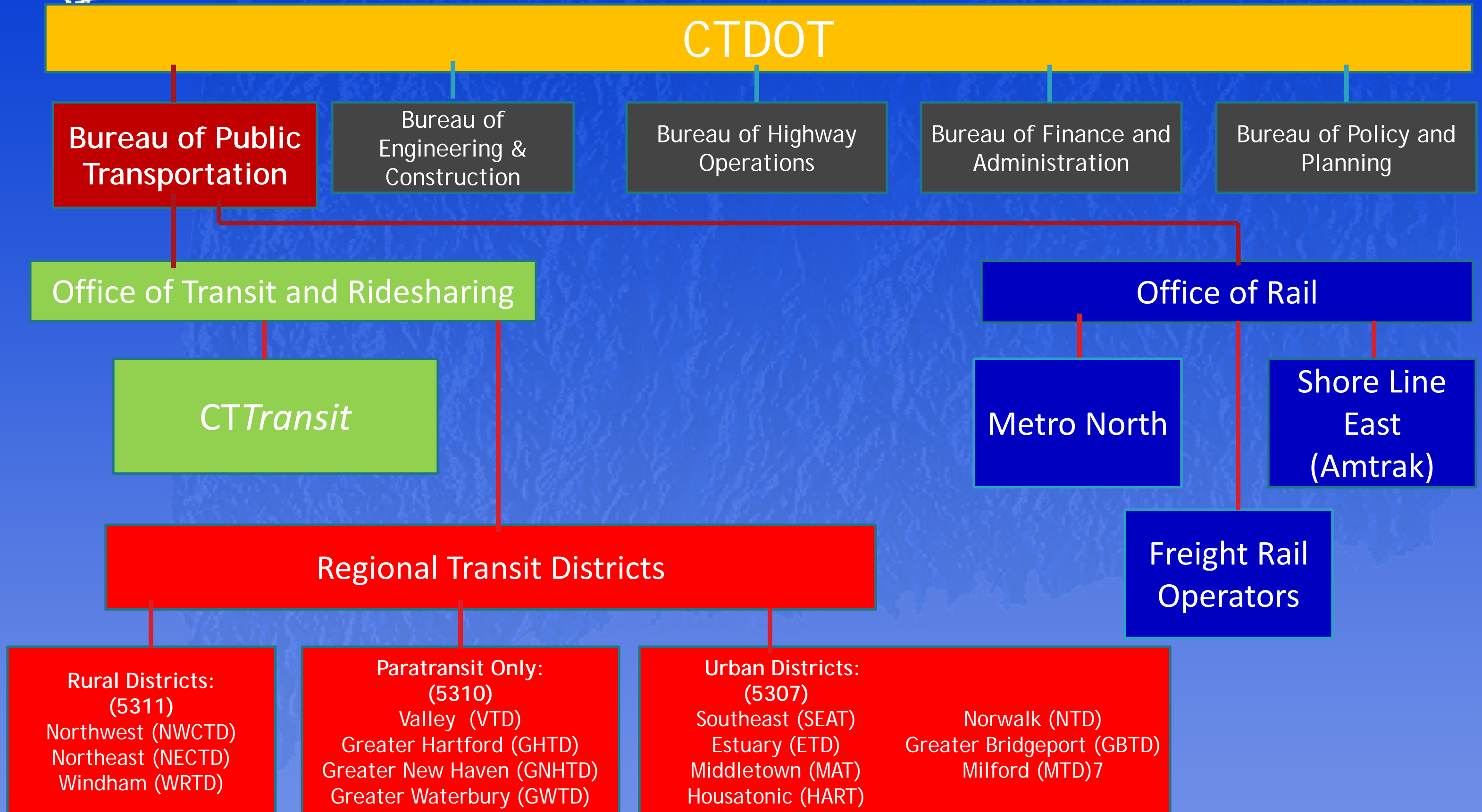
Bureau of Public Transportation

Mission & Objectives

- Mission
 - Develop, maintain, and operate a system that provides for the safe, efficient and sustainable movement of people and goods
- Objectives
 - Maintain existing systems at a state of good repair and enhance system safety and security
 - Improve efficiency and effectiveness of transit service delivery
 - Expand services to capture a greater share of existing markets and address specific new markets



Public Transportation Operators





Public Transportation Operators

CTTransit (8 Divisions)

First Transit (*Contract Management Services*)

H.N.S. (Sub Corporation of First Transit)
- *Responsible to Perform Legal Contract*

Northeast Transportation Company

New Britain Transit

DATTCO

(Hartford)
Div.

(New Haven)
Div.

(Stamford)
Div.

(Waterbury)
Div.

(Meriden)
Div.

(Wallingford)
Div.

(New Britain)
Div.

(Bristol)
Div.



Overview of Statewide Transit Service

- Transit represents ~50% of CTDOT's annual operating budget
- CTDOT jointly owns/operates rail service with MTA-Metro North Railroad (New Haven Line) and is largest bus provider in the state (*CTTransit*)



Transit Assets

- Vehicles
 - 460 rail vehicles
 - 1,336 buses and paratransit vehicles
- Guideway
 - Metro North New Haven Line (in CT) and 3 branch lines
 - 9.4 mile CTfastrak Bus Rapid Transit (BRT) System
- Facilities
 - Rail and bus passenger facilities
 - Administrative and maintenance facilities



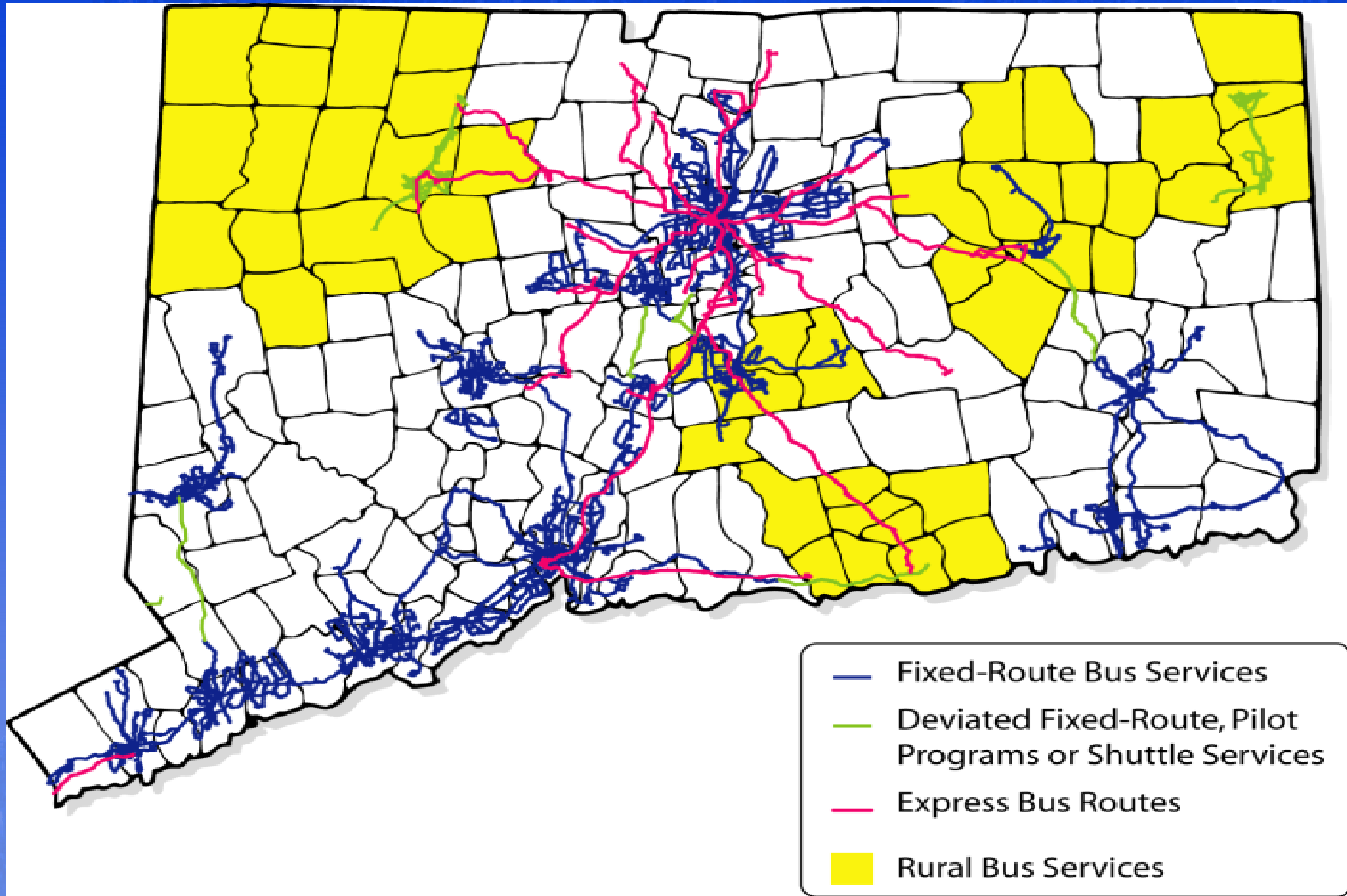


Bus Services in Connecticut



- \$184 million annual operating budget
- State-owned systems in eight areas - 80% of statewide ridership
- 15 transit districts, 12 state subsidized (7 urban, 5 rural)
- Paratransit systems for the disabled in 14 transit districts
- 42 million annual trips, 1 million paratransit annual trips

Public Bus Service





Bus Transit Capital Program

- \$146 million annual capital budget
- Small Capital - Fare box upgrade \$20 million, CAD and AVL - \$29 million
- Maintenance and storage facilities under design or construction in Waterbury, Greater Hartford, New Haven, Torrington - \$154 million
- Fleet Replacements - 12-14 year cycle for full-size buses, 4 -5 year cycle for smaller buses

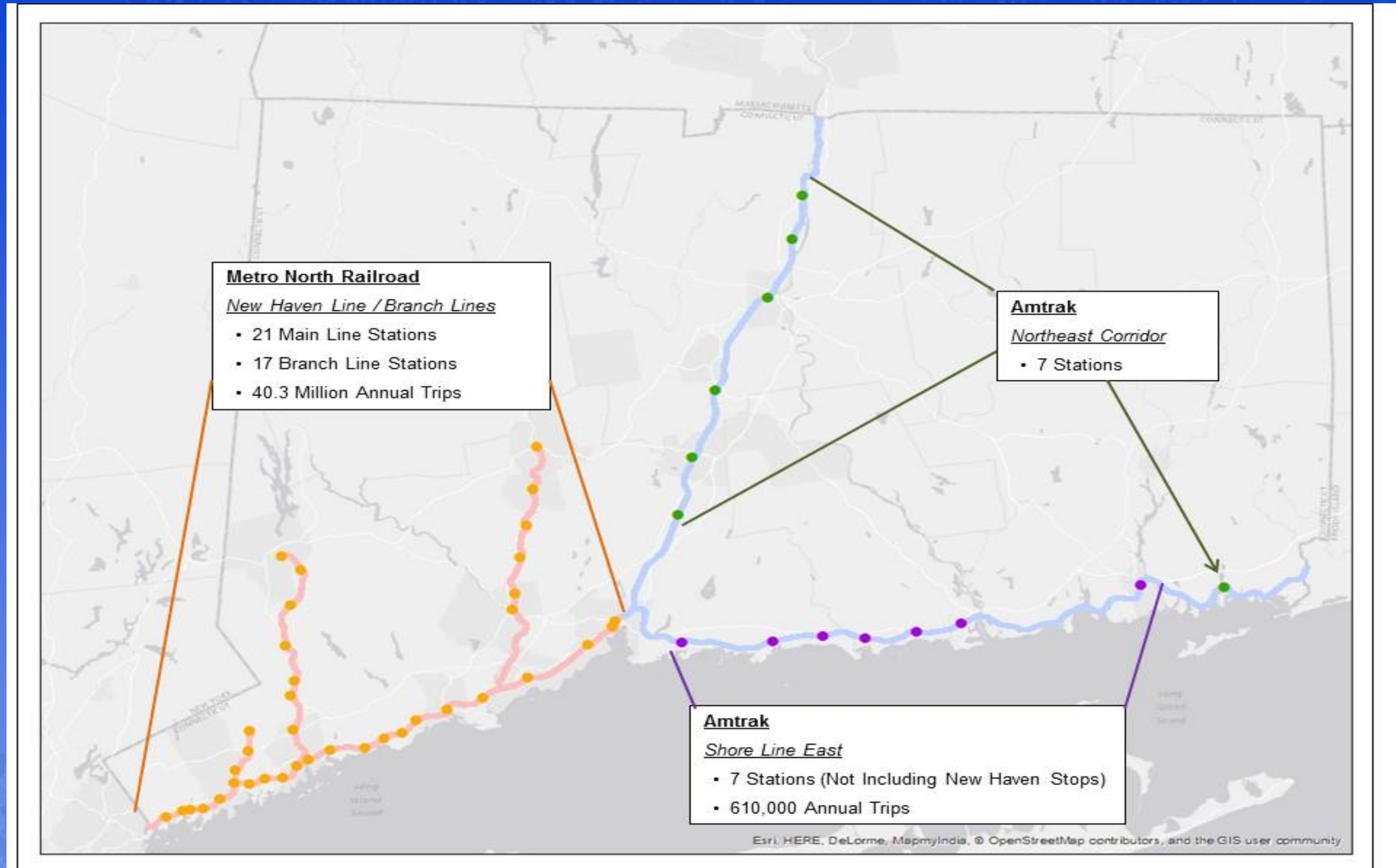


Rail Passenger Service In Connecticut

- \$ 489 million gross annual operating budget
- New Haven Line
 - Operated by MTA-Metro-North Railroad Company
 - Main Line (New Haven to Grand Central Terminal)
 - Three Branch Lines (Waterbury, Danbury, New Canaan)
- Shore Line East
 - Operated by Amtrak
 - New London to New Haven, with additional express service to Bridgeport and Stamford
- Amtrak
 - Northeast Corridor/Acela along the shore, interior route from New Haven to Hartford and Springfield



Commuter Rail Service





Commuter Rail Capital Program

- Approximately \$870 million FY 2016
- Major existing projects under design or in construction
 - New Haven Line Walk Railroad Bridge (\$568 Million)
 - New Haven Rail Yard upgrade (\$1.15 Billion)
 - PTC Implementation for New Haven Line (\$160 Million)
 - Hartford Line (\$570 Million)





Project Objectives

- Assess current state of the practice at CTDOT with respect to transit asset management
- Perform gap assessment
- Assess readiness to comply with FTA transit asset management requirements
- Develop implementation plan for addressing gaps



Project Tasks

- Task A – Project Kickoff
- Task B – Review of Existing Materials
- Task C – Conduct In-Depth Interviews
- Task D – Prepare Gap Assessment Survey
- Task E – Implement Gap Assessment Survey
- Task F – Transit Asset Management Workshop
- Task G – Implementation Plan
- Task H – Freight Rail Asset Management Gap Assessment

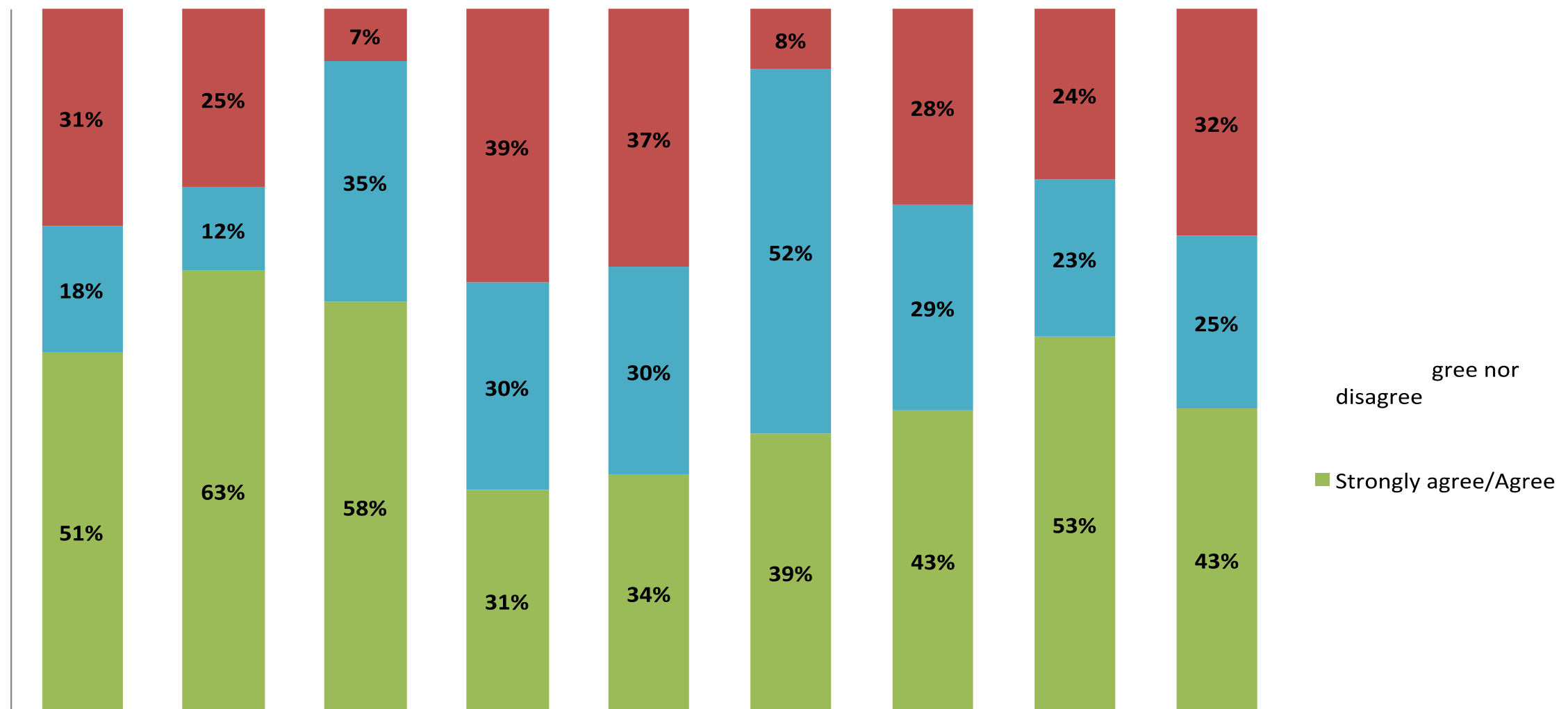


Assessment Approach

- Conducted a series of in-depth interviews of CTDOT and transit operator staff
- Supplemented interviews with a self assessment
- Developed self assessment based on review of various approaches, e.g.
 - FTA Transit Asset Management Maturity Self-Assessment
 - ISO 55000
 - Metro-North Asset Management Gap Assessment
 - Seattle DOT Gap Assessment
 - AASHTO Transportation Asset Management Gap Analysis Tool
 - Tillamook County Asset Management Readiness Assessment
- Ultimately modeled the self assessment on the FTA example

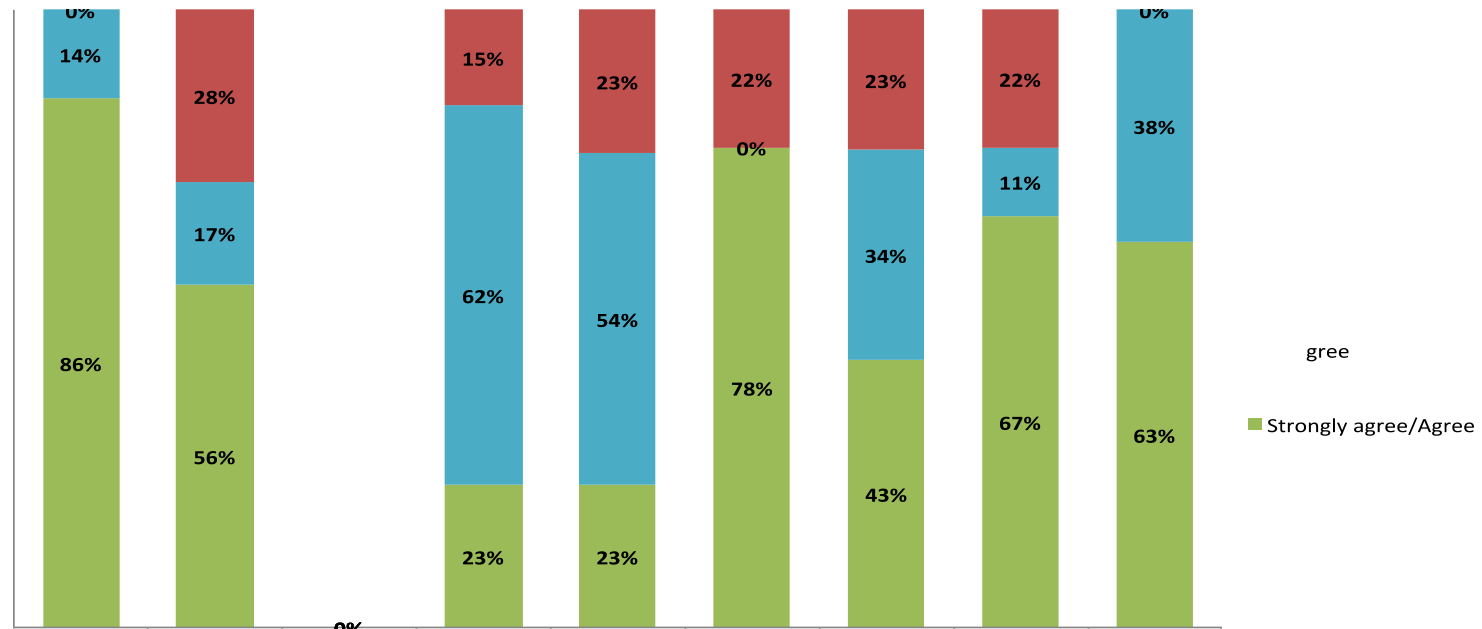


Self Assessment Summary Results

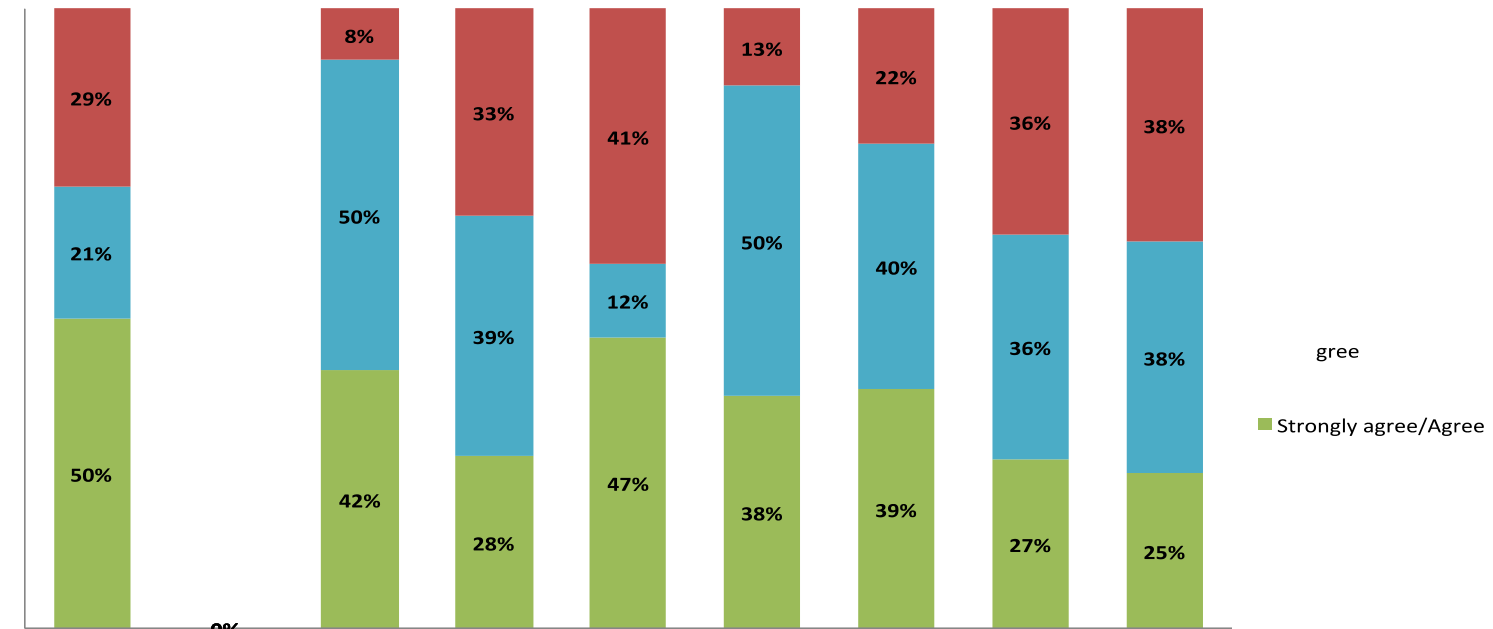




CTDOT Bus and Rail



CTDOT Bus



CTDOT Rail

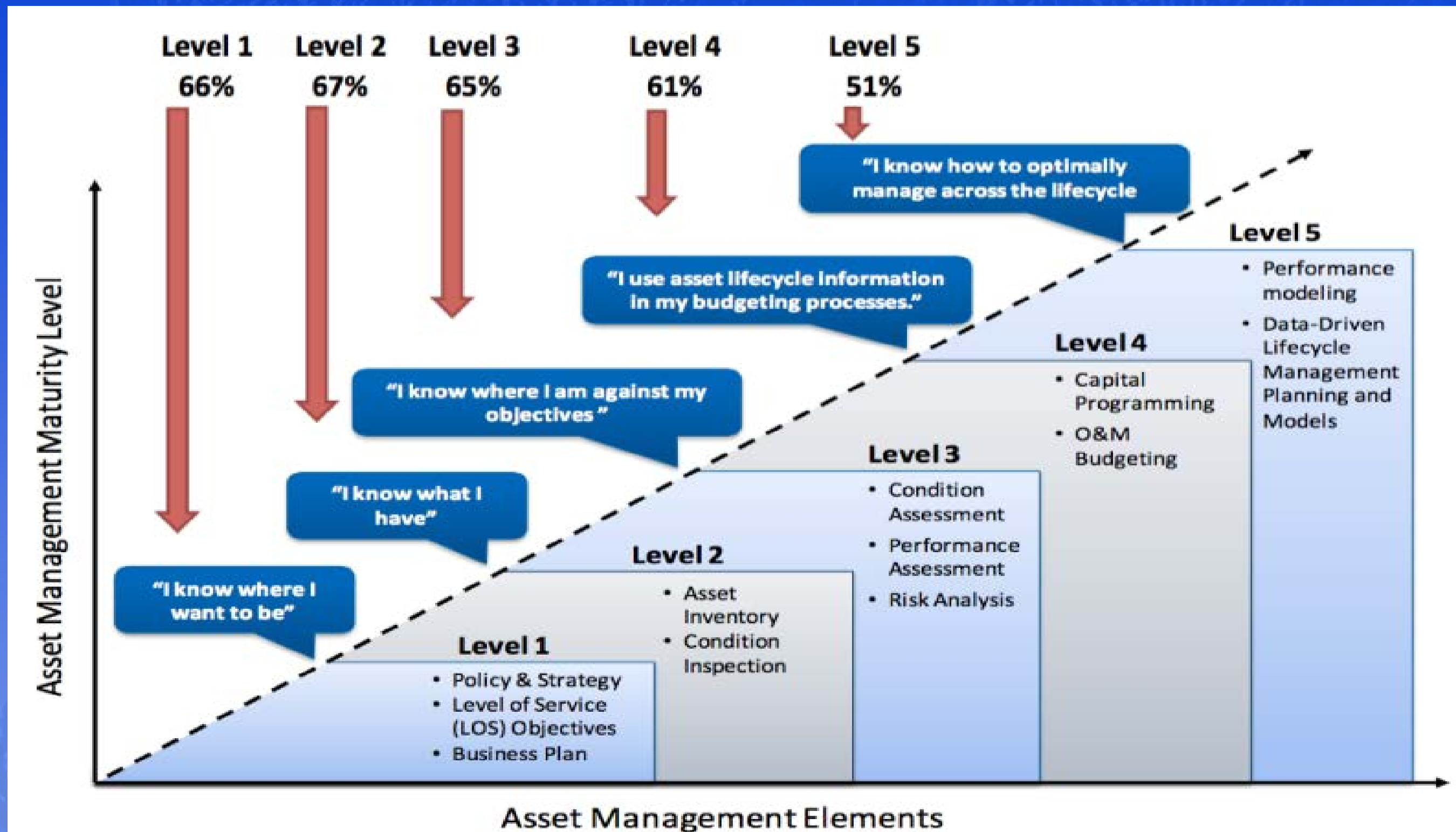


Scoring Overall Asset Management Maturity

- Used approach described in FTA Transit Asset Management Guide for establishing overall maturity
- Each statement was scored on a five point scale
 - 1 - Strongly disagree
 - 5 - Strongly agree
- The points for each statement were summed and divided by the total potential points.
- Statement scores were grouped by maturity level
- FTA goal: score of 80% or more for each maturity level (indicating agreement with all statements, on average)

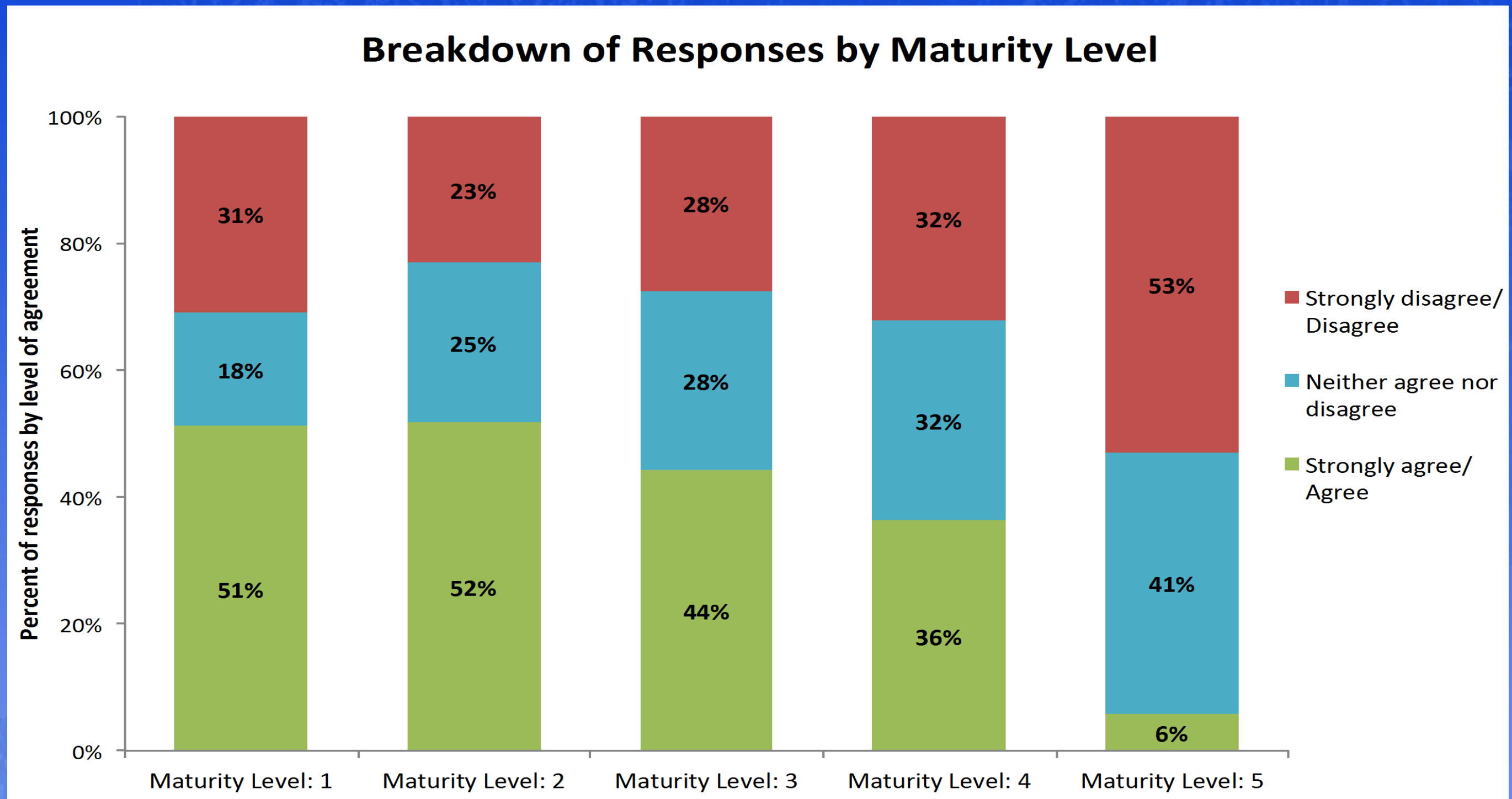


Asset Management Maturity Level Scores





Level of Agreement by Maturity Level





Gap Assessment

- The following are the project team's assessment of the most significant gaps with respect to CT transit asset management practices
- The findings are based on comparing existing practices to best practices considering
 - Review of CTDOT documents
 - In-depth interviews
 - Self-assessment



Inventory and Condition Data Gaps

- Facilities (admin, maintenance, passenger)
 - Basic inventory and condition data are recorded in state financial management system, Core-CT supplemented by periodic detailed assessments
 - Desirable to support routine collection of more detailed data
- Rail guideway
 - Inventory recorded through track charts
 - Lack condition data needed for management and investment decisions



Business Process Gaps

- Defensible approach for estimating capital needs to attain SGR
- Ability to predict future SGR needs for facilities
- Performance measures for characterizing current conditions to supplement existing vehicle measures in the Quarterly Performance Measures Summary
- Documentation on existing transit capital plan development approach
- Tracking of facility maintenance plans



Other Gaps

- Asset management system
 - Financial management system Core-CT is the system of record for tracking asset inventory but is not a full-featured EAM
 - Operators identified a need for improved solution for facility management
- Staff time for selected functions
 - Review/verification of data submitted to CTDOT by contractors
 - Condition assessment



Draft Implementation Tasks

1. Develop the Asset Hierarchy
 - Define a hierarchy of assets and sub-assets for use in day-to-day asset management activities
2. Standardize Condition Assessment Approaches
 - Develop a condition assessment approach for transit administrative, maintenance and passenger facilities and rail guideway
3. Establish Performance Measures
 - Define and implement performance measures for facility condition and Shoreline East vehicles



Draft Tasks (cont.)

4. Implement a Statewide Facilities Asset Management System
 - Define the requirements for, purchase/acquire and implement an asset management system that will support day-to-day management of Connecticut transit facilities
5. Improve Oversight of Maintenance Plans
6. Document Capital Planning Procedures
7. Improve Predictive Capability for Fixed Assets



Draft Tasks (cont.)

8. Prepare a Transit Asset Management Plan (TAMP)
 - Develop an initial TAMP based on TCRP Report 172 and FTA guidance
9. Define Staffing / Funding Needs
 - Define staffing/funding needs for improving transit asset management practices
10. Information Sharing
 - Conduct a set of activities to facilitate exchange of information on asset management practices between CT transit providers



Conclusions

- CTDOT and CT transit operators are practicing transit asset management at a basic level, but need to make improvements, particularly regarding management of fixed assets
- The project has helped CTDOT establish next steps in implementing an improved approach to transit asset management
- The gap assessment approach described in the FTA Transit Asset Management Guide was a good starting point
 - CTDOT found it more meaningful to summarize results by level of agreement rather than overall score
 - Worked well to use the self assessment to supplement results from a targeted set of interviews