

Statewide Strategic Transit Assessment Study

Stakeholder Meeting

August 6, 2019

Overview

- Intercity update
- Survey results
- Priorities for local transit services
- Priorities for commuter routes
- Technology recommendations
- Timeline

Results of Survey

- 988 responses overall (3 from out of state)
- Over 200 cities and towns represented

- Top five response towns

- Nashua – 74
- Concord – 68
- Manchester – 65
- Dover – 40
- Keene - 19

Planning Commission	Responses	2016 Population	Response Rate
NCC	134	89,082	0.15%
CNHRPC	169	129,386	0.13%
LRPC	122	113,208	0.11%
UVLSRPC	70	89,476	0.08%
SRPC	100	149,848	0.07%
NRPC	128	207,903	0.06%
SWRPC	60	100,518	0.06%
SNHPC	141	256,538	0.06%
RPC	56	191,544	0.03%

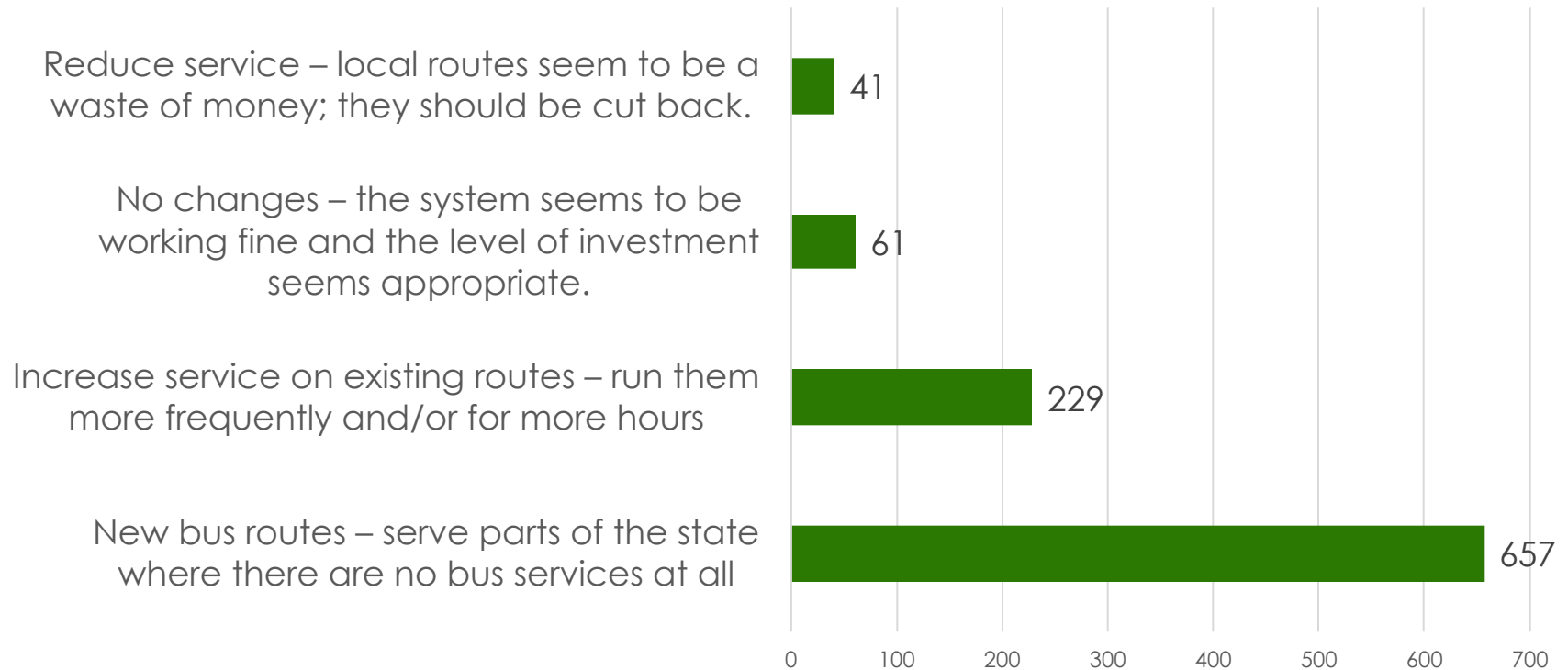
Profile of Respondents

- Mostly working age (26 to 64): 76%
 - Rest mostly 65-79 (18%)
- Mostly employed full time: 65%
 - Retired next at 15%
- Almost all have a motor vehicle available: 92%
- Most never use public transit in NH: 58%
 - 5% are frequent users, 11% use it once a month, 24% use it once a year or so

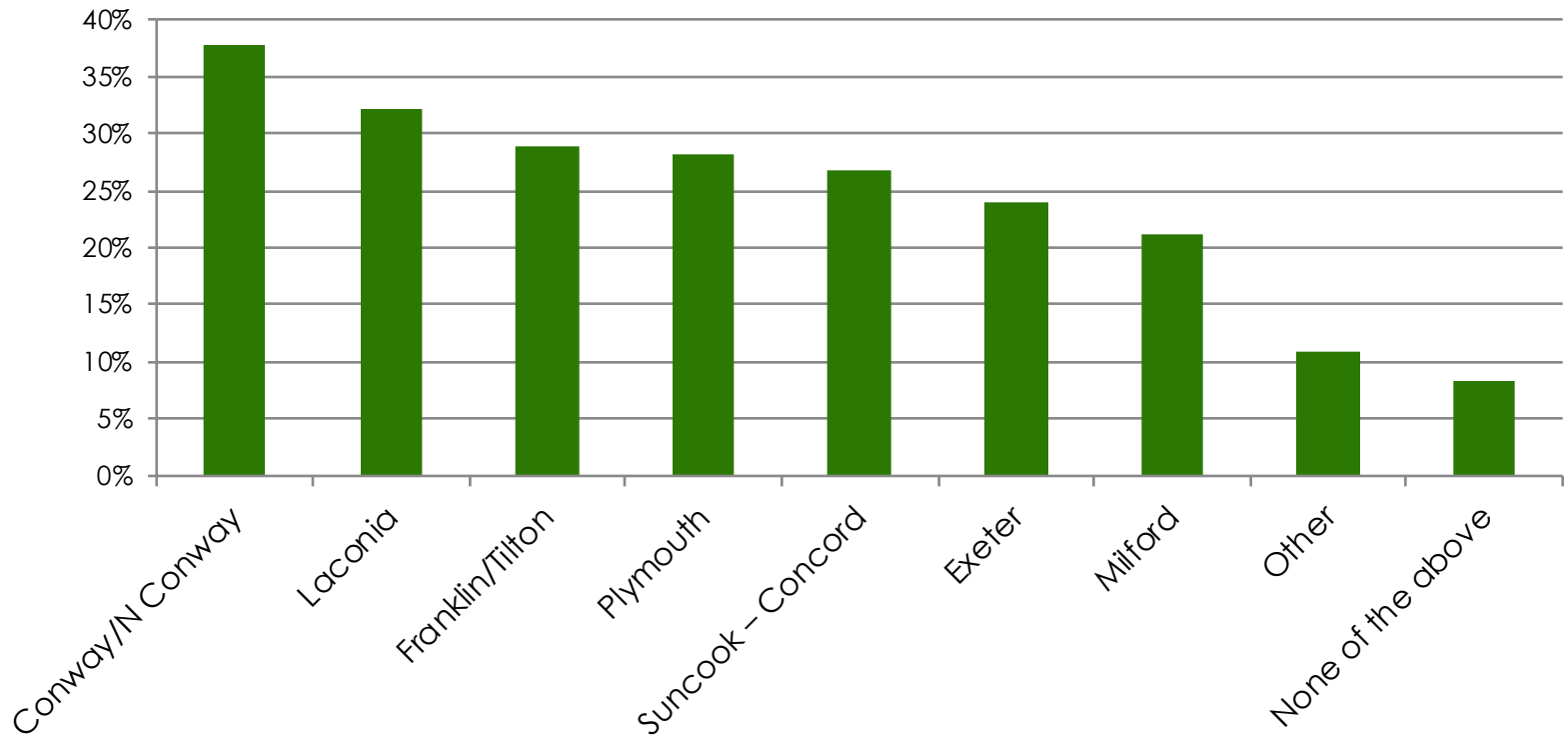
Policy Preferences

- Five operational policy choices were ranked as follows:
(lower number is better on a scale from 1 to 5)
 - Basic mobility – 1.98
 - Access to employment – 2.24
 - Support economic development – 3.35
 - Maximize efficiency – 3.48
 - Attract millennials and choice riders – 3.94
- Four capital investment choices were ranked as follows:
 - More passenger facilities – 2.33
 - New buses and vans – 2.40
 - Better pedestrian access – 2.56
 - More technology – 2.70

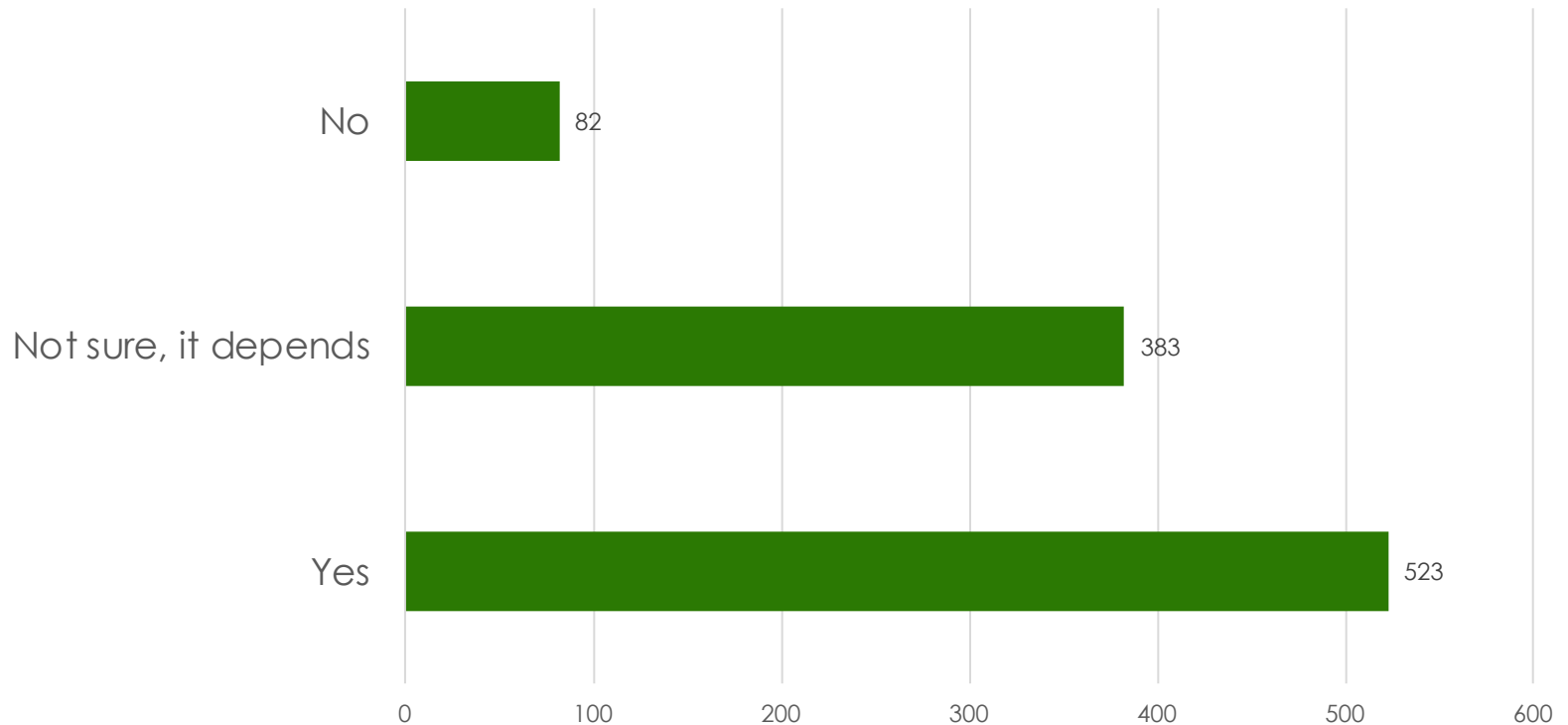
Overall Level of Local Service



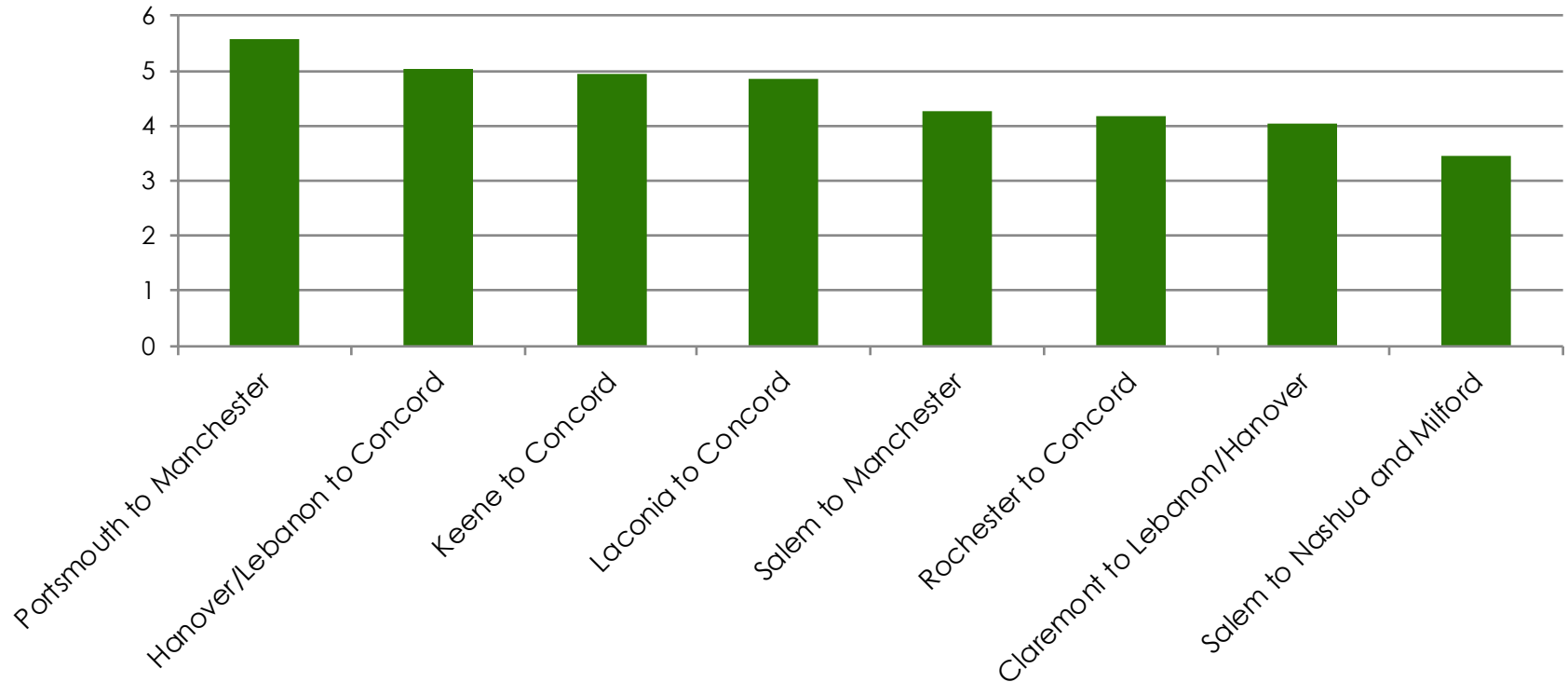
Local Route Preferences



Support for Commuter Routes



Commuter Route Ranking*



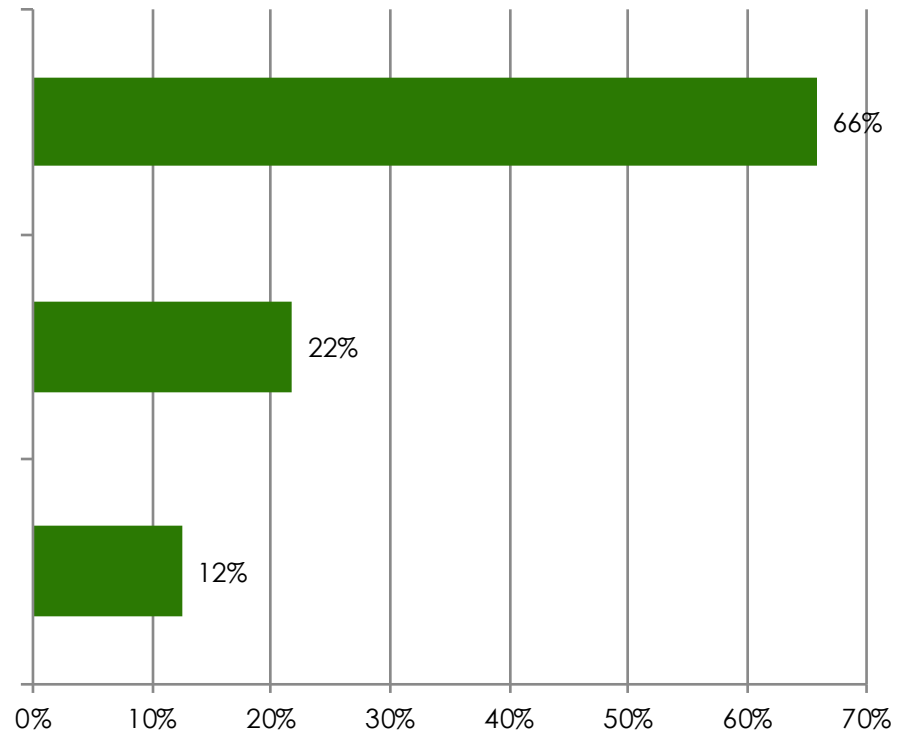
*Higher score is better

Role for Public Transit in NH

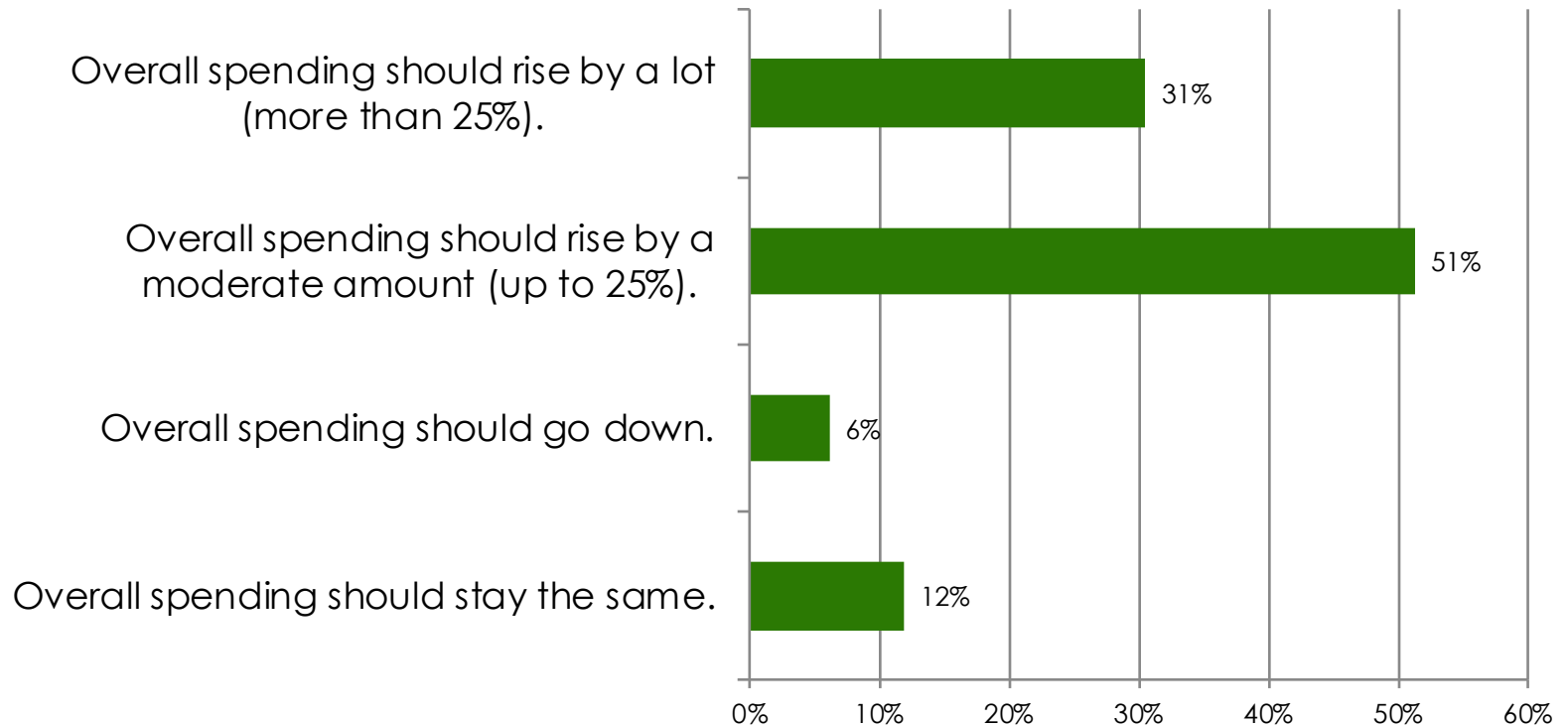
It should be a viable transportation option for people all over NH, even people living in rural communities.

It should be a viable transportation option for parts of the state so people in urbanized areas can choose to live without owning a car.

It should mainly be a social service so that people who cannot drive can take care of basic necessities.



Public Spending on Transit



Comments

- Many comments about need for more service in the North Country, both local and commuter
- Many comments about expanding service in places that already have transit: Nashua, Keene, Portsmouth, Littleton, etc.
- Many requests for east-west connections across state
- Many mentions of rail service

Priorities for Local Service

- Focus on areas with no current bus routes
- Tiers based on quantified need and public preferences
- Future funding should not exclude expansions of existing systems

Local Services Summary

Route	Headway	Days of Service	Annual Revenue Hrs	Annual Gross Cost*	Urban/Rural
Conway	30/60	100	2,000	\$150,000	Rural
Plymouth	40	255	3,315	\$250,000	Rural
Suncook	60	255	3,315	\$250,000	Urban
Milford	60	156	1,400	\$105,000	Urban
Exeter	60	255	3,315	\$250,000	Urban
Laconia	60	255	3,315	\$250,000	Rural
Franklin/Tilton	60	255	3,315	\$250,000	Rural
TOTAL				\$1,505,000	

* Cost per revenue hour assumed at \$75 for all services

Proposed Local Route Tiers

■ Tier 1

- Conway
- Laconia

■ Tier 2

- Milford
- Franklin/Tilton
- Suncook (to Concord and/or Manchester)

■ Tier 3

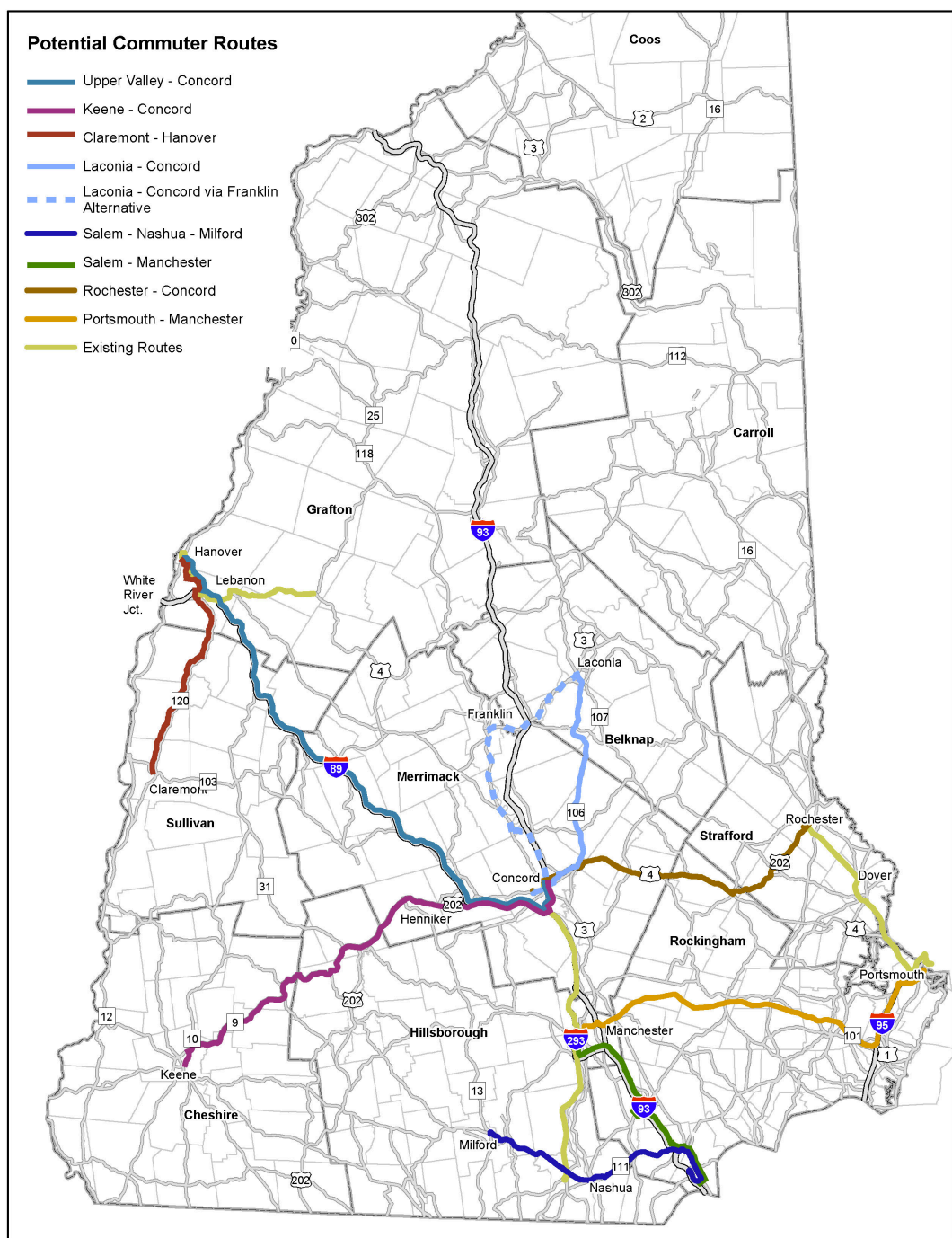
- Plymouth
- Exeter

Priorities for Commuter Service

- Complement intercity routes
- Promote east-west connections
- Link local transit systems together

Potential Commuter Network

- Links together most important employment centers in southern half of the state
- North Country linked via intercity routes



Commuter Routes Summary

Route	Miles	Annual Cost	Annual Riders	Cost/ Rider
Keene-Concord	53	\$386,000	19,000	\$21
Claremont-Hanover	28	\$260,000	26,000	\$10
Hanover-Concord	70	\$485,000	34,000	\$14
Laconia-Concord	29	\$234,000	12,000	\$19
Rochester-Concord	37	\$312,000	23,000	\$13
Portsmouth-Manchester	47	\$349,000	26,000	\$13
Salem-Londonderry-Manchester	26	\$211,000	42,000	\$5
Salem-Nashua-Milford	30	\$301,000	19,000	\$15
TOTALS		\$2,538,000	201,000	\$13

Proposed Commuter Route Tiers

- Tier 1
 - Salem-Londonderry-Manchester (coordinated with Tuscan Village and Woodmont Commons developments)
 - Claremont-Lebanon-Hanover
- Tier 2
 - Portsmouth-Manchester
 - Hanover-Concord
 - Rochester-Concord
- Tier 3
 - Laconia-Concord*
 - Keene-Concord*
 - Salem-Nashua-Milford

*Promote if intercity route not implemented

Technology

- April presentation included an overview of available Transit ITS technologies
- Further research completed
 - Inventory of existing ITS deployments at NH transit providers
 - Organization of technologies into priority tiers
 - Six tiers overall
 - Only tiers 1 to 3 expected by 2029
 - Draft implementation agenda and timeline for each provider to reach minimum recommended level of technology (tier 3)
 - Cost estimates for capital and operations & maintenance

Transit Technology “Menu”

Fleet Operations and Management

Traveler Information

Safety and Security

Automated Fare Payment

Maintenance

Other

Dependencies Among Technologies

Core Technology Dependencies

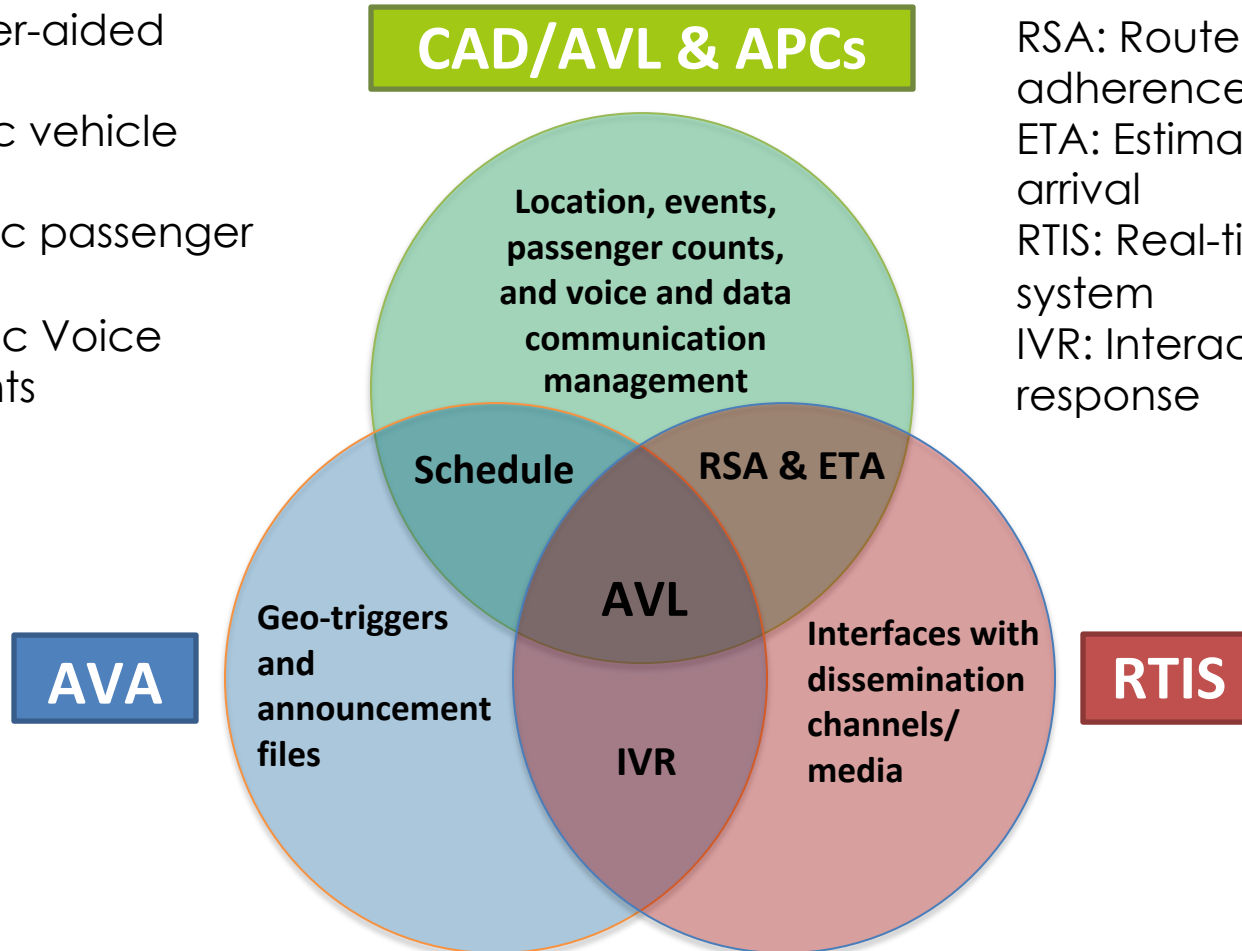
CAD/AVL & APCs

RSA: Route & schedule adherence

ETA: Estimated time of arrival

RTIS: Real-time information system

IVR: Interactive voice response



Tier 1 Technologies

- Communications technologies*
- Automatic vehicle location (AVL)
- Computer-aided dispatch (CAD)
- On-board automated voice announcements (AVA)
- En-route/wayside traveler information, including real-time arrival/departure information in a variety of dissemination media
- Technology integration*
- Third-party smartphone applications (included in traveler info. cost)
- Open data for third-party application development*

*unit cost not available

Tier 2 Technologies

- Automatic passenger counters (APCs)
- Scheduling (fixed-route and paratransit) systems
- Mobile (on-board and exterior) and fixed video surveillance
- Covert emergency alarm and covert live audio monitoring
- On-board digital video recorders
- Geographic information system (GIS) application*
- Service coordination facilitated by technology (includes paratransit CAD/AVL)

*unit cost not available

Tier 3 Technologies

- Vehicle component monitoring (VCM)
- G-force monitoring (EDRS)
- Maintenance software to schedule and track scheduled and unscheduled maintenance activities, and manage parts inventory
- On-board Internet access for passengers*
- 511, 311 and 211 systems, and Google Transit*

*unit cost not available

Later Tiers

- Tier 4
 - Automated fare media (e.g., magnetic stripe cards, contact smartcards, contactless smartcards and smartphone-based payment methods)
 - Automated fareboxes and faregates
 - Ticket vending machines
 - Tier 5
 - Transfer connection protection (TCP)
 - Transit signal priority (TSP)
 - Data management and reporting*
 - Tier 6
 - Intelligent vehicle technologies (e.g., collision warning)*
 - Lane control technologies*
- *unit cost not available

Tier 1 Recommendations by Provider

- Covers implementation timeframe through 2023
- Capital costs estimated in 2019 dollars
- Operating and maintenance costs assumed to begin in year after deployment, also in 2019 dollars
- Costs not estimated for items with no available unit costs

Advance Transit

■ Tier 1 elements already deployed

- Communications system
- AVL
- Real-time information
- Third-party smartphone applications

Note: TSP (Tier 5) is also recommended for AT by 2021 for one intersection.
Capital: \$72K to \$162K
O&M: \$7K to \$16K

■ Tier 1 elements recommended (2022)

- Automated vehicle announcements
- Open data (cost not estimated)
- Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$118,000	\$211,000	\$20,000	\$31,200

COAST

- Tier 1 elements already deployed
 - Communications system
 - Computer-aided Dispatch (CAD)/AVL
 - Real-time information
 - Third-party smartphone applications
 - AVA
- Tier 1 elements recommended (2022)
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Manchester Transit Authority

- Tier 1 elements already deployed
 - Communications system
 - AVL
 - AVA
- Tier 1 elements recommended (2022)
 - CAD
 - Traveler information
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$395,750	\$1,012,250	\$101,148	\$201,445

Sullivan County Transit

- Tier 1 elements already deployed - None
- Tier 1 elements recommended (2023)
 - Communications technology
 - AVL
 - CAD
 - AVA
 - Traveler information
 - Third-party smartphone applications
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$564,000	\$1,282,000	\$122,355	\$232,468

Tri-County CAP Transit

- Tier 1 elements already deployed - None
- Tier 1 elements recommended (2023)
 - Communications technology
 - AVL
 - CAD
 - AVA
 - Traveler information
 - Third-party smartphone applications
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$666,000	\$1,506,000	\$126,938	\$242,183

VNA-HCS

- Tier 1 elements already deployed - None
- Tier 1 elements recommended (2023)
 - Communications technology
 - AVL
 - CAD
 - AVA
 - Traveler information
 - Third-party smartphone applications
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$585,000	\$1,326,000	\$123,265	\$234,425

Nashua Transit System

- Tier 1 elements already deployed
 - Limited AVL
 - AVA
- Tier 1 elements recommended (2023)
 - AVL
 - CAD
 - Traveler information
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$528,000	\$1,226,000	\$105,675	\$207,595

CART

- Tier 1 elements already deployed - None
- Tier 1 elements recommended (2023)
 - Communications technology
 - AVL
 - CAD
 - AVA
 - Traveler information
 - Third-party smartphone applications
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$585,000	\$1,326,000	\$123,265	\$234,425

CAT

- Tier 1 elements already deployed
 - Communications system
- Tier 1 elements recommended (2023)
 - AVL
 - CAD
 - AVA
 - Traveler information
 - Third-party smartphone applications
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$518,000	\$1,184,000	\$120,080	\$227,880

UNH Wildcat Transit

- Tier 1 elements already deployed
 - Communications system
 - CAD/AVL
 - Real time information
 - Third-party smartphone applications
- Tier 1 elements recommended (2022)
 - AVA
 - Open data (cost not estimated)
 - Technology integration (cost not estimated)

Total Capital Cost (min)	Total Capital Cost (max)	Annual O&M Cost (min)	Annual O&M Cost (max)
\$152,000	\$269,000	\$21,200	\$33,200

Statewide Cost Estimates

Goal Year	Total Capital Cost (min)	Total Capital Cost (max)	Total O&M Cost (min)	Total O&M Cost (max)
2021	\$224,000	\$431,000	\$0	\$0
2022	2,144,750	4,959,250	28,163	48,900
2023	2,366,250	5,119,750	498,331	951,445
2024	0	0	967,002	1,809,044
2025	1,517,750	3,139,250	967,002	1,809,044
2026	264,000	506,000	1,386,524	2,386,433
2027	302,500	570,500	1,483,850	2,533,334
2028	546,000	1,236,000	1,582,551	2,682,610
2029	1,671,000	3,938,000	1,704,889	2,894,060
2030	N/A	N/A	2,072,054	3,530,410

Next Steps - Technology

- Flesh out technology strategy and integration plan for each agency
- Consider economies of statewide or multi-regional procurement for some technologies
- Begin research on funding possibilities, including private/foundation sources

Timeline

- Presentation to MPOs and RPCs in August
- Documentation in August/September
- Completion of project in the Fall