

Valley Transit Service Review

East Central Wisconsin Regional Planning Commission
Steering Committee Meeting
January 10, 2019

Agenda

- Introduction
- Meeting Goals/Outcomes
- Existing Service Review
 - Community Characteristics
 - Performance and Productivity
 - Customer Experience
- Fixed Route Service Concepts
- Additional Recommendations and Next Steps

Introduction / Project Overview

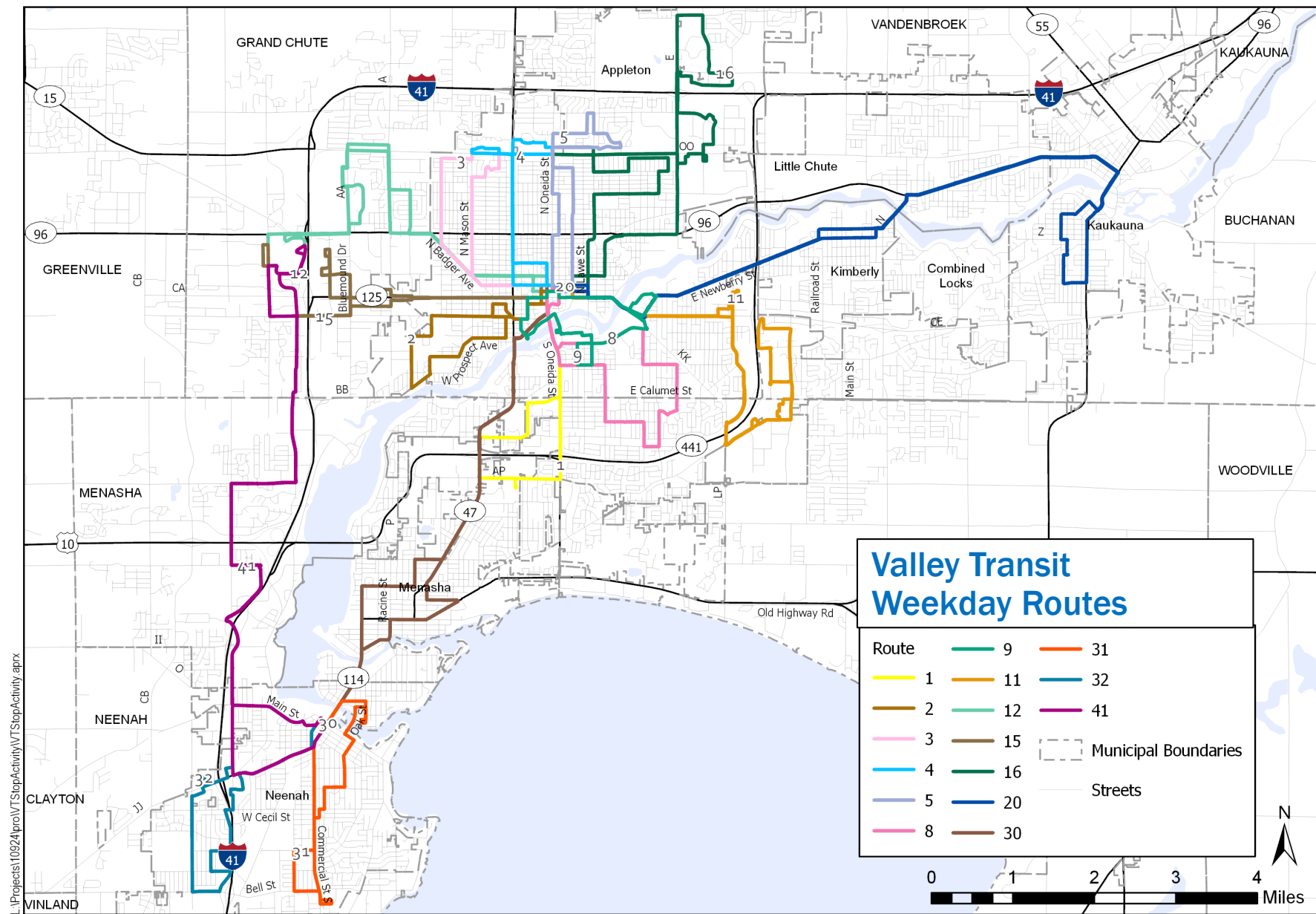
SRF Tasks:

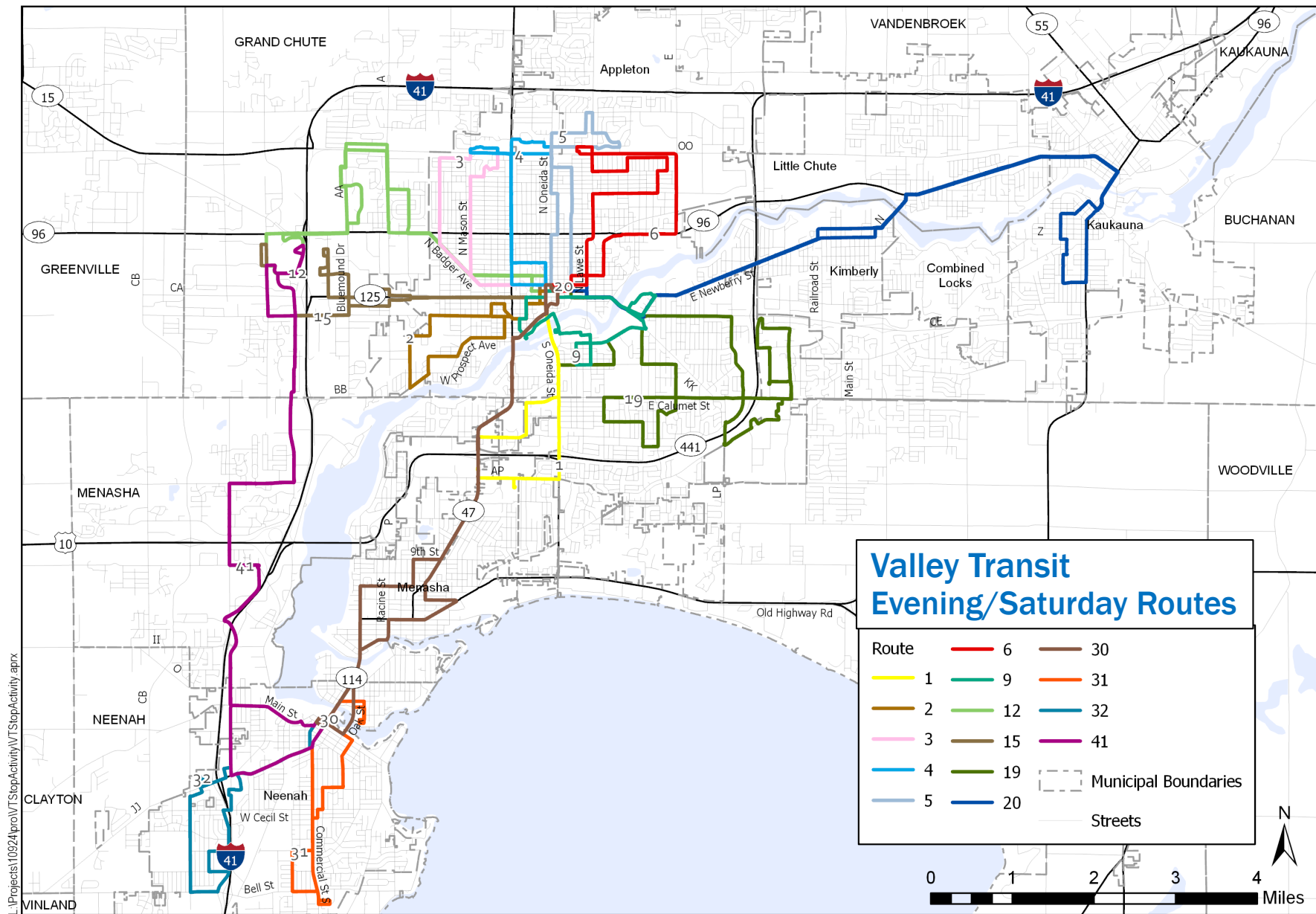
- Review existing Valley Transit service
- Summarize community conditions and previous planning work
- Develop fixed route service concepts
- Assist in prioritization/implementation planning
- Recommend additional service improvements

Meeting Goals / Outcomes

- Present findings of draft final report
- Gather Steering Committee input on priorities
- Summarize roles and responsibilities for next steps

Existing Service Review





Other Services

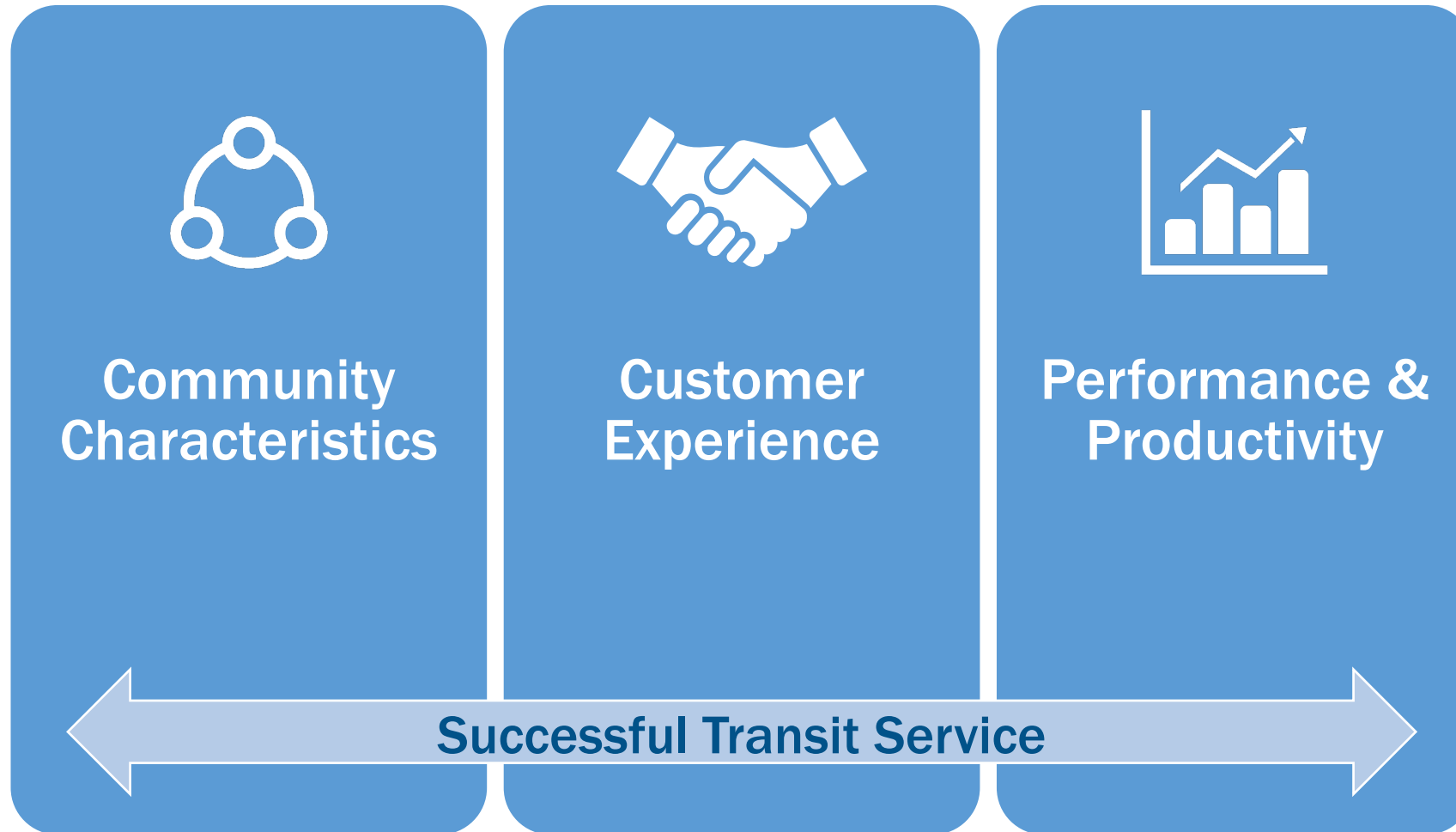
Valley Transit II

- ADA paratransit service for customers with disabilities available within $\frac{3}{4}$ mile of existing fixed routes
- Also available to non-ADA seniors during limited hours

The Connector

- First- and last-mile demand response service
- Provides trips outside the fixed-route service area and/or outside typical bus service hours

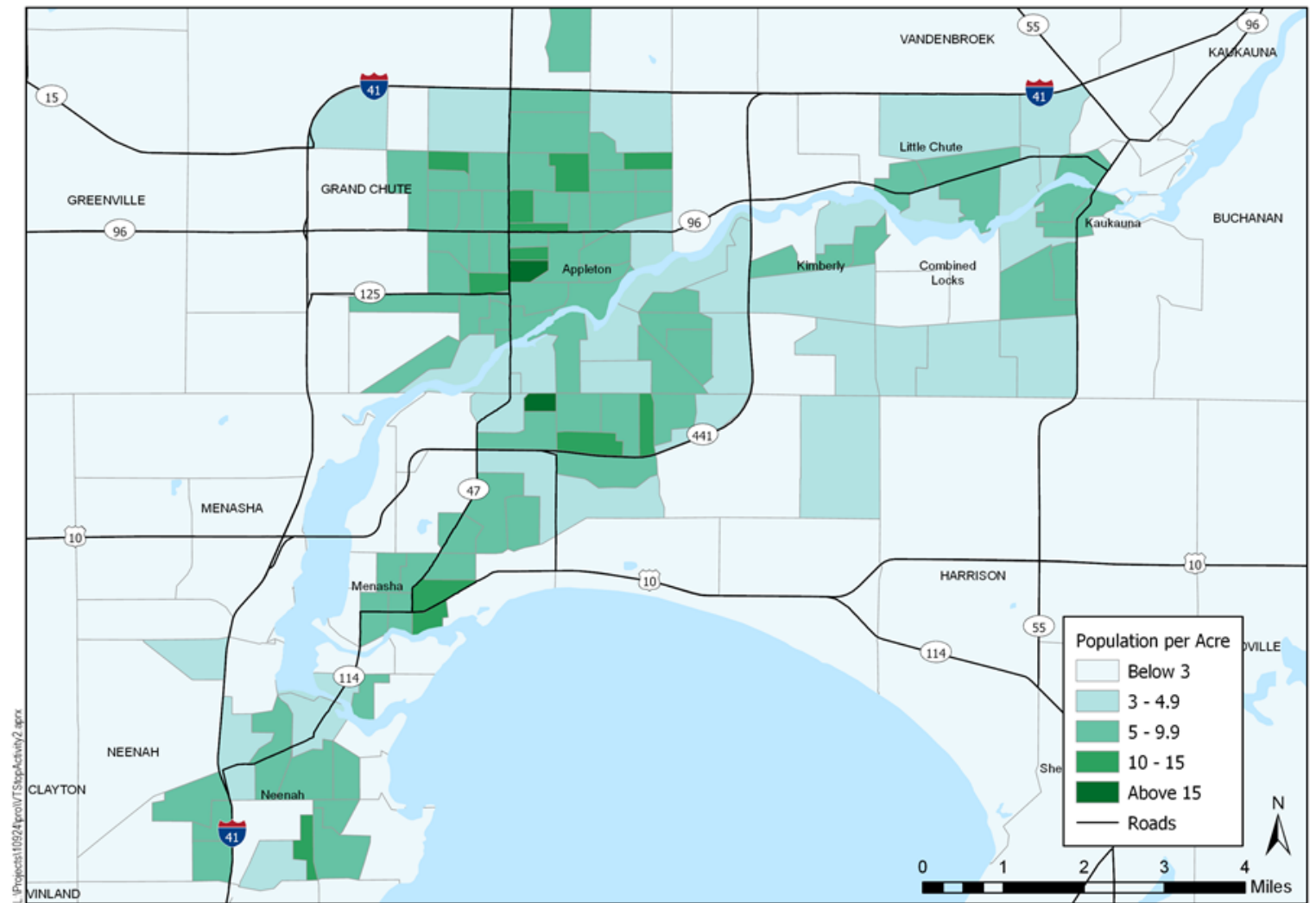
Existing Service Review



Community Characteristics

Population Density

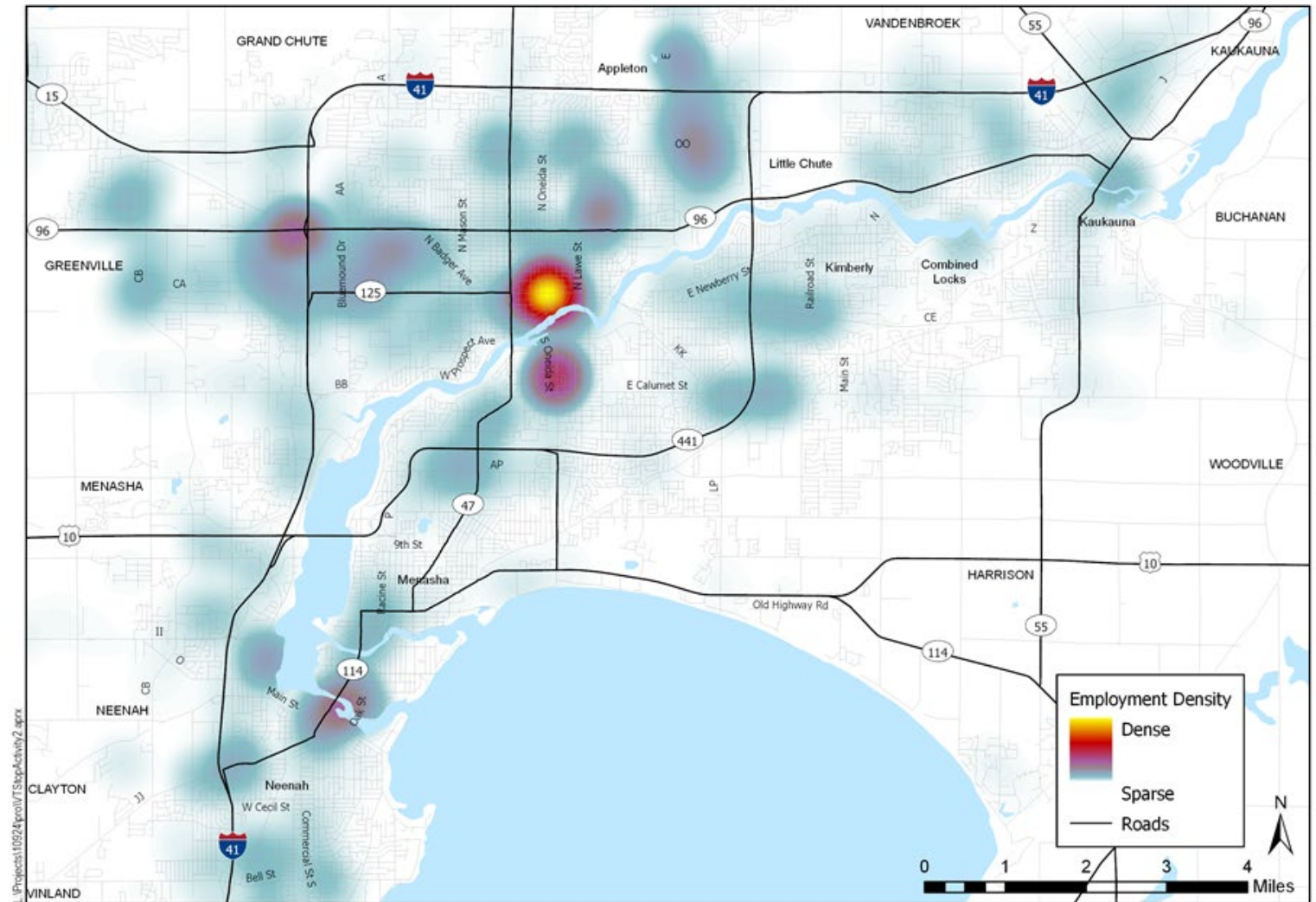
Areas of medium to high population density include areas near downtown Appleton, Menasha, and Neenah, as well as communities in the Heart of the Valley.



Community Characteristics

Employment Density Heatmap

Downtown Appleton is home to the region's densest concentration of employers, with secondary centers in Neenah and Grand Chute.

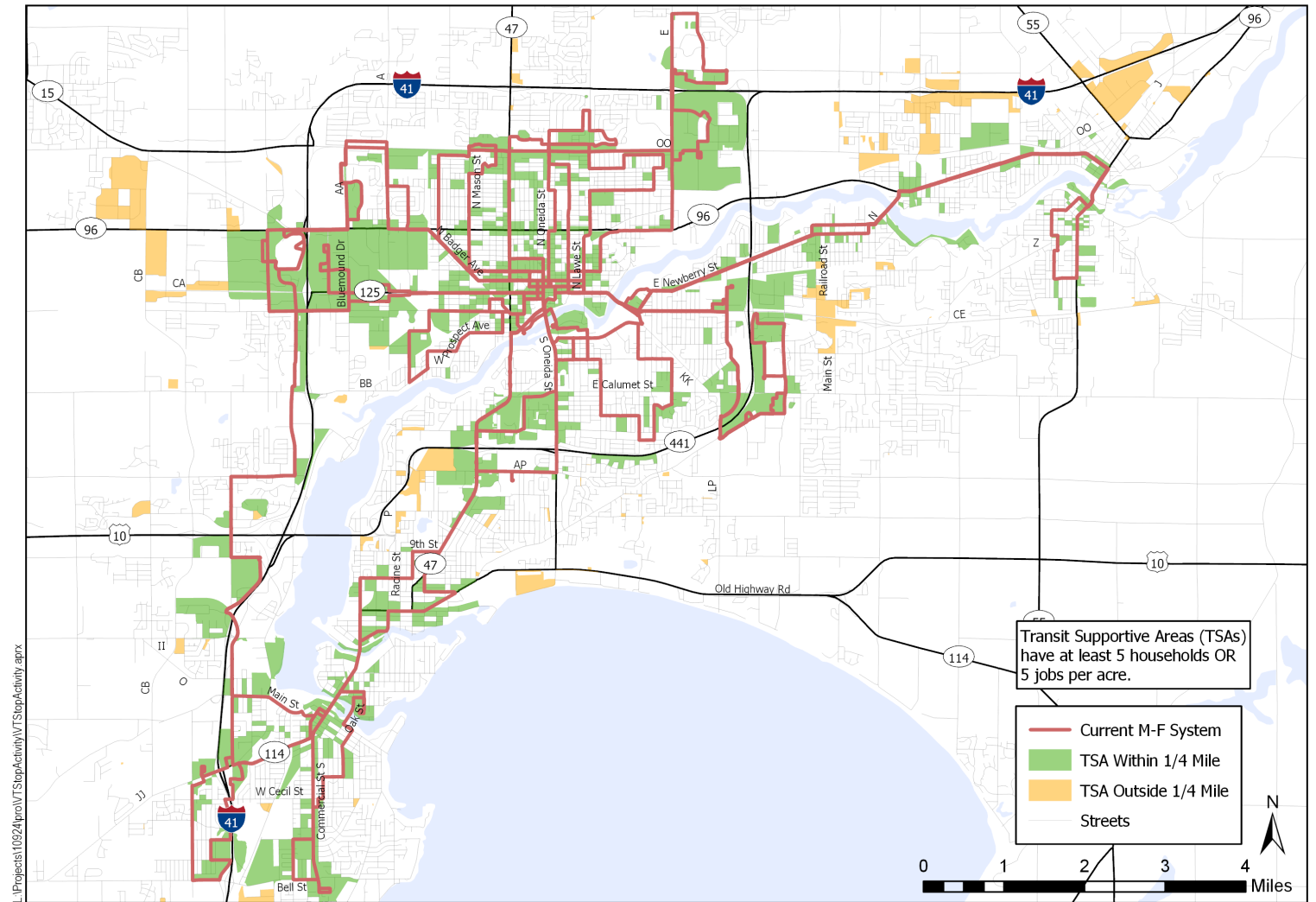


Community Characteristics

Transit Supportive Areas

Transit Supportive Areas (TSAs) have at least 5 households OR 5 jobs per acre.

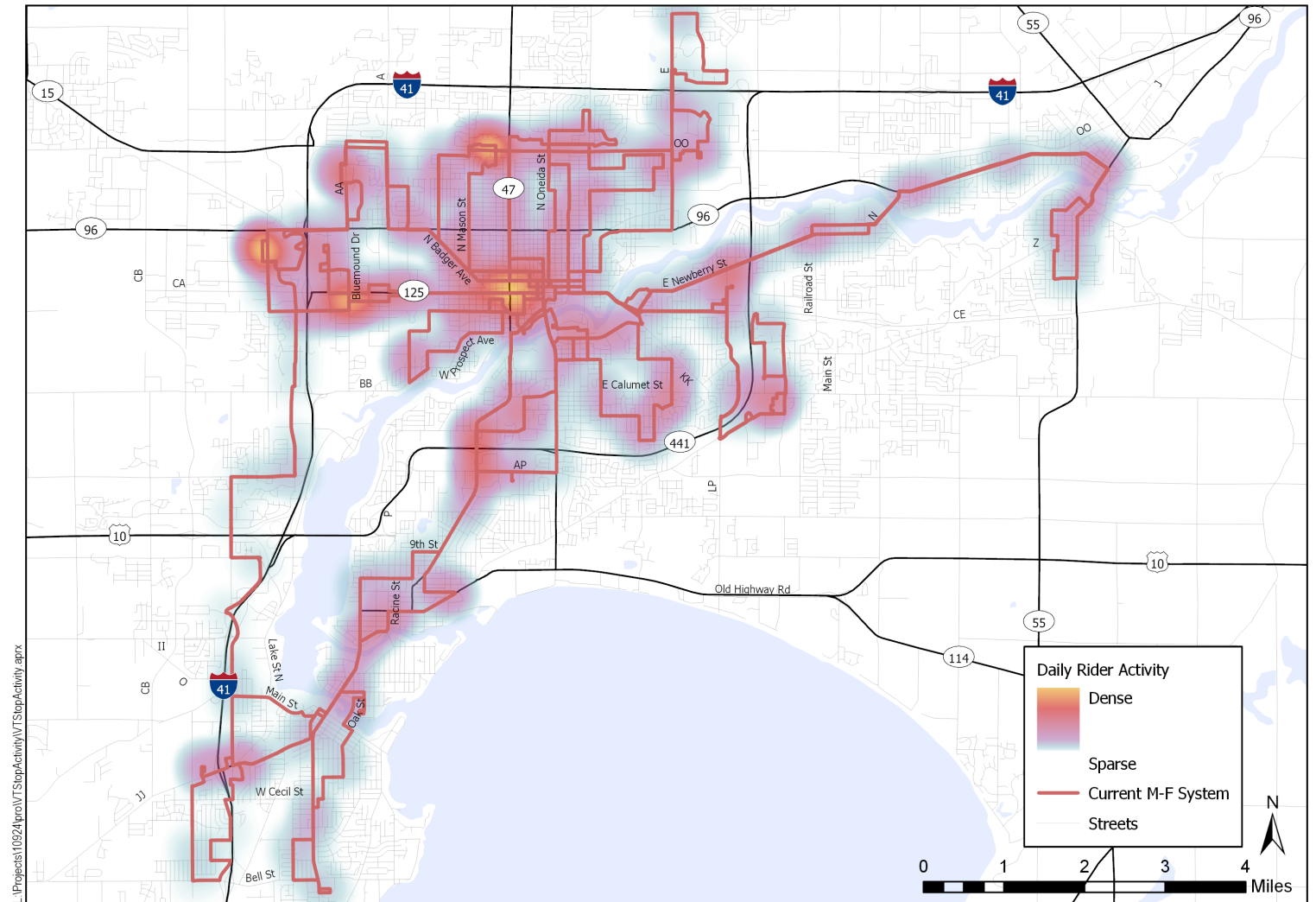
The majority of TSAs are located within 1/4 mile of existing transit routes



Community Characteristics

Ridership Activity Heatmap

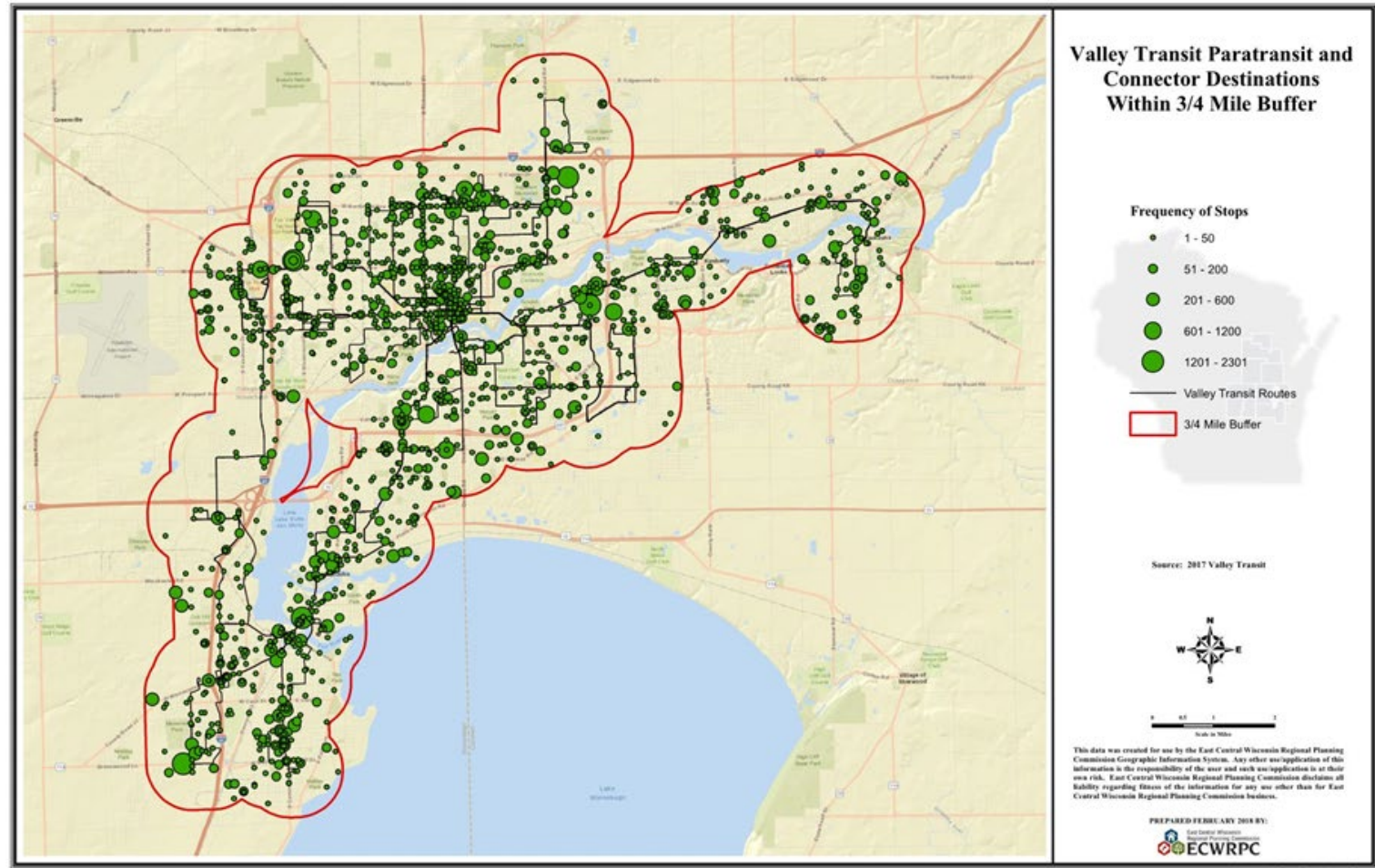
Valley Transit ridership is densest in downtown Appleton. Other high-ridership locations include Fox River Mall, Northland Mall, and Fox Valley Technical College.



Community Characteristics

Demand Response Ridership

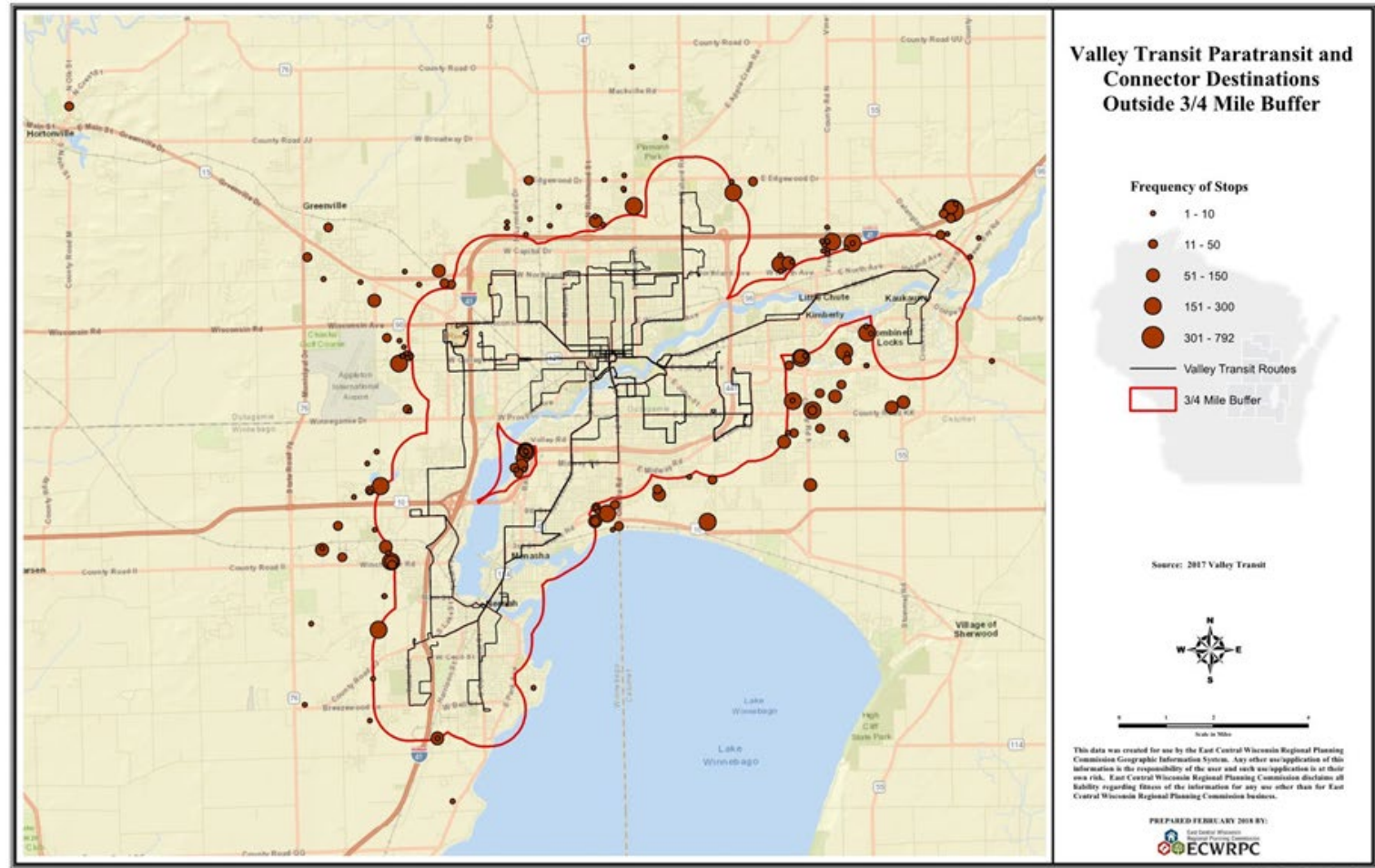
ADA and Connector ridership activity generally follows similar patterns to fixed-route ridership.



Community Characteristics

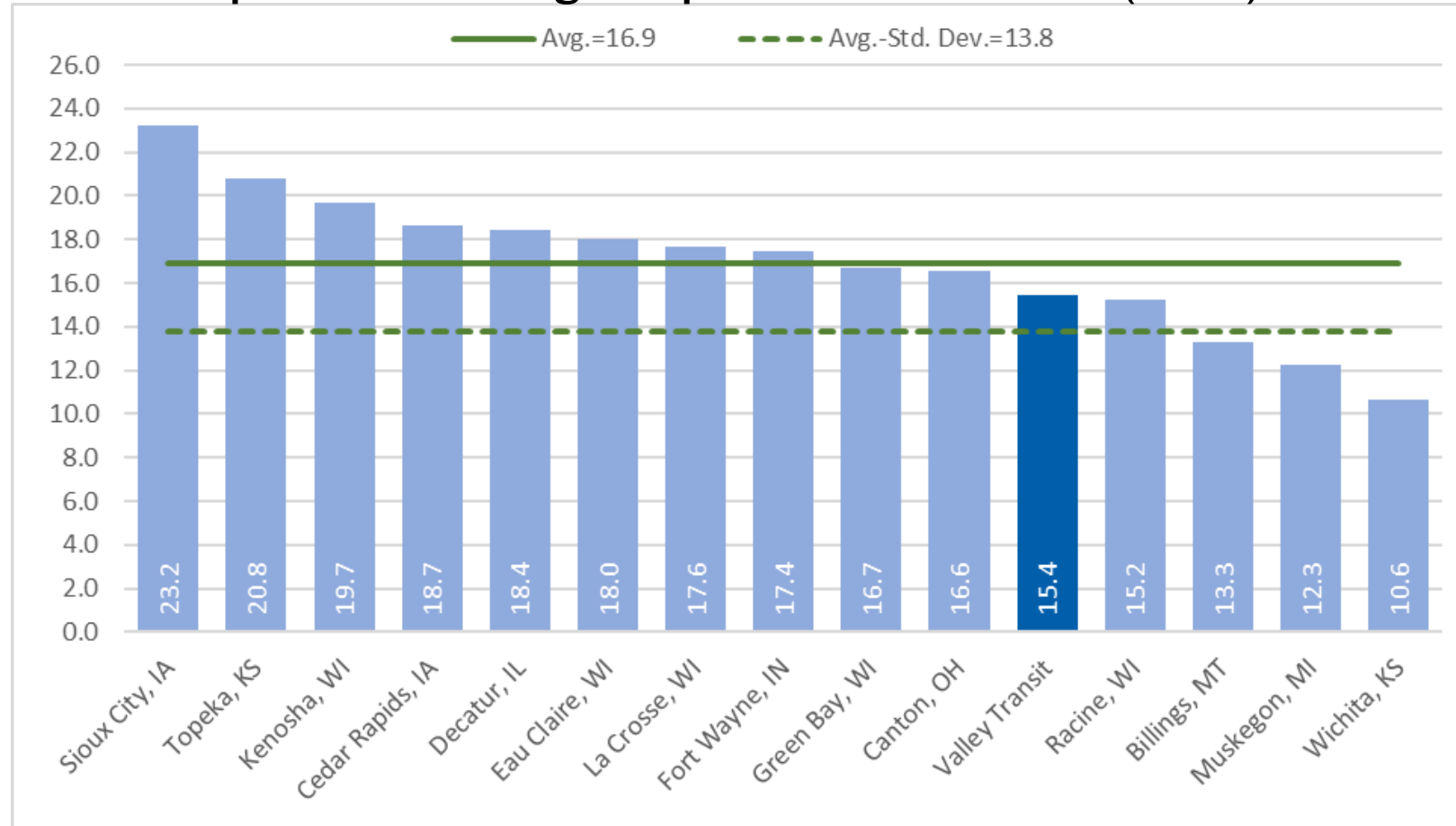
Demand Response Ridership

ADA and Connector trips provided to destinations **outside** the required ADA boundary (3/4 mile) demonstrate areas of potential demand for new service.



Performance and Productivity

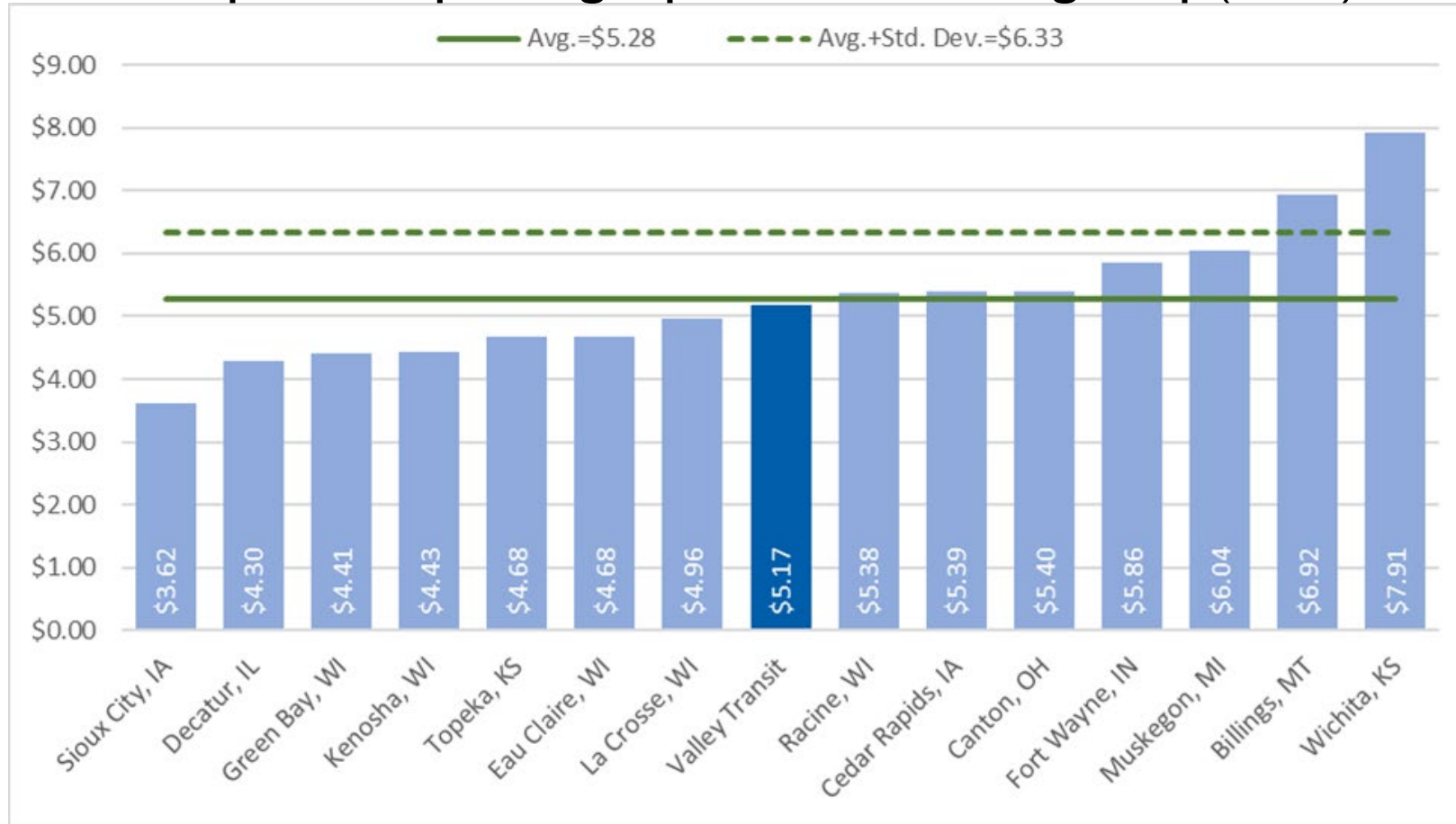
Peer Comparison: Passenger Trips Per Revenue Hour (2016)



Source: National Transit Database, 2016

Performance and Productivity

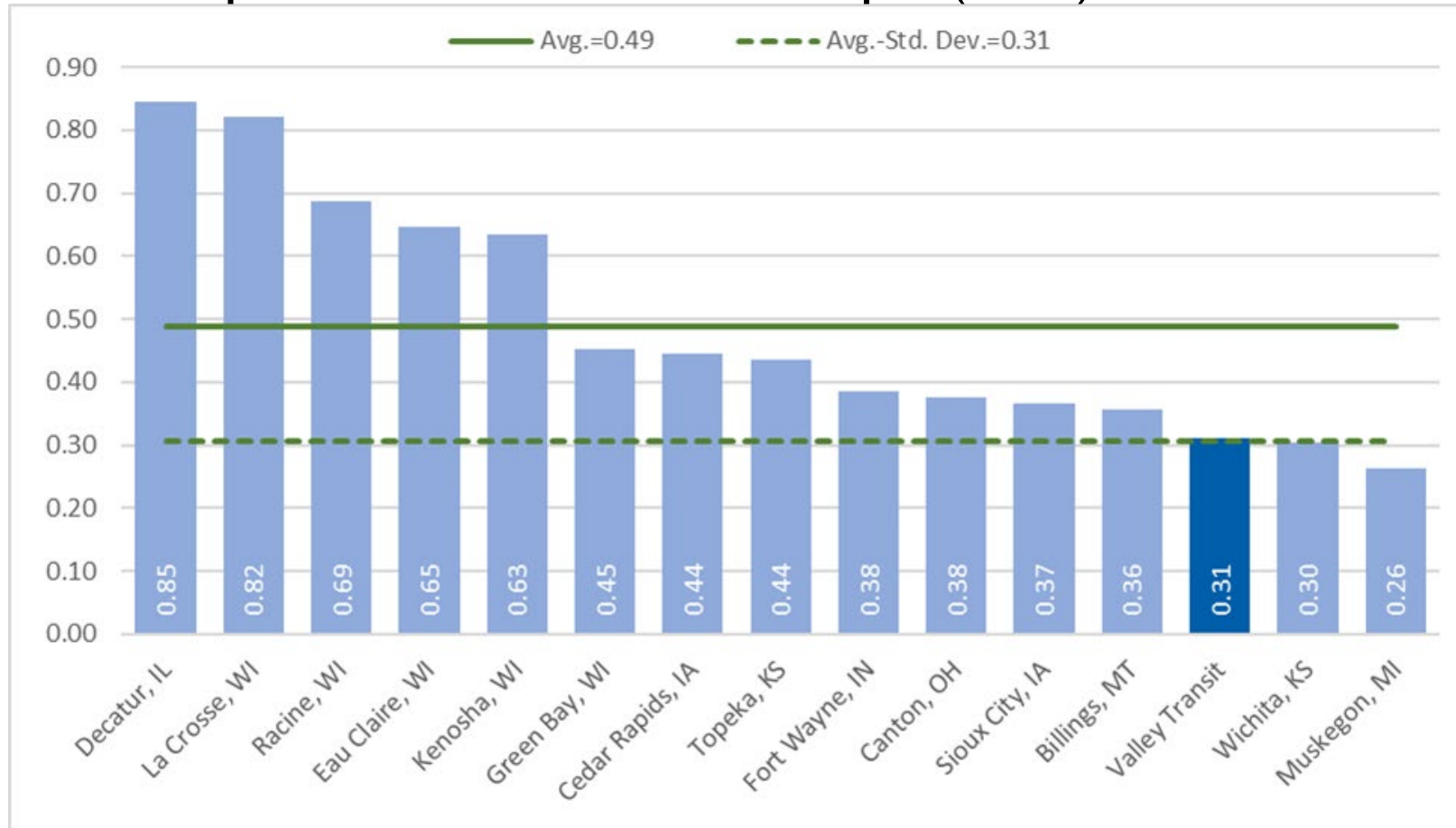
Peer Comparison: Operating Expenses Per Passenger Trip (2016)



Source: National Transit Database, 2016

Performance and Productivity

Peer Comparison: Revenue Hours Per Capita (2016)



Source: National Transit Database, 2016

Performance and Productivity

Data Examined:

- Route productivity
- Stop-level ridership
- On-time performance and reliability
- Travel time
- Cost (Revenue hours, miles, and vehicles)

2017 Ridership & Productivity by Route

Route	Annual Ridership	Annual Revenue Hours	Passengers per Revenue Hour
1 – Midway	51,605	3,042	17.0
2 – Prospect	38,330	3,042	12.6
3 – Mason	64,167	3,042	21.1
4 – Richmond	43,631	3,042	14.3
5 – N. Oneida	39,665	3,042	13.0
6 – Meade	6,822	1,002	6.8
8 – Telulah	39,556	2,040	19.4
9 – The Link	36,744	4,808	7.6
11 – E. College/ Buchanan	31,468	2,805	11.2
12 – Fox Valley Tech	89,675	4,501	19.9
15 – W. College	132,273	4,808	27.5
16 – Northeast	46,836	4,080	11.5
19 – Southeast	14,485	2,003	7.2
20 – Heart of the Valley	82,705	5,115	16.2
30 – Neenah/Menasha	113,027	5,115	22.1
31/32 – E. / W. Neenah	43,590	3,580	12.2
41 – West Fox Valley	34,249	3,632	9.4
All Routes*	908,828	58,696	15.5

Bold: Top 5 routes by ridership and productivity. *Excludes Trippers and Specials.

Performance and Productivity

Data Examined:

- Route productivity
- Stop-level ridership
- On-time performance and reliability
- Travel time
- Cost (Revenue hours, miles, and vehicles)

Frequency and Travel Time by Route

Route	Roundtrip Travel Time	Frequency (Peak)	Frequency (Off-Peak)
1 – Midway	30 minutes	30 minutes	60 minutes
2 – Prospect	30 minutes	30 minutes	60 minutes
3 – Mason	30 minutes	30 minutes	60 minutes
4 – Richmond	30 minutes	30 minutes	60 minutes
5 – N. Oneida	30 minutes	30 minutes	60 minutes
6 – Meade	30 minutes	--	60 minutes
8 – Telulah	30 minutes	30 minutes	60 minutes
9 – The Link	30 minutes	30 minutes	30 minutes
11 - E. College/ Buchanan	60 minutes	60 minutes	60 minutes
12 – Fox Valley Tech	60 minutes	60 minutes	60 minutes
15 – W. College	60 minutes	60 minutes	60 minutes
16 – Northeast	60 minutes	30 minutes	60 minutes
19 – Southeast	60 minutes	60 minutes	60 minutes
20 – Heart of the Valley	60 minutes	60 minutes	60 minutes
30 – Neenah/Menasha	60 minutes	60 minutes	60 minutes
31/32 – E. / W. Neenah	30 minutes	60 minutes	60 minutes
41 – West Fox Valley	60 minutes	60 minutes	60 minutes

Bold: Top 5 routes by ridership and productivity. *Excludes Trippers and Specials.

Customer Experience

- Among current riders, high levels of customer satisfaction
 - Positive perception of Valley Transit
- Challenges and opportunities:
 - Growing suburban employment and residential centers
 - Continuing downtown reinvestment
- Customer/stakeholder feedback:
 - Need additional frequency & span of service
 - Desire to incorporate new technology and new modes of transit into system

Customer Experience

Steering Committee Observations

Positive	Negative
Buses are clean, comfortable and air-conditioned Drivers are friendly and helpful	Frequency of schedule: Infrequent schedules make it difficult to complete daily activities without having to wait for a later bus
Buses are on time and easy to use Downtown transit center is conveniently located	Travel time: Takes much longer to reach destination via bus than via car, Uber, or cab
Schedule and detour information available online Bike racks available and used by customers	Complexity: Routes / maps can be time-consuming to understand for first-time riders

Customer Experience

TCRP Level of Service (LOS) Analysis

Category	LOS	Description	Customer Perspective
Frequency	D-E	1-2 vehicles per hour	Long waits between buses, especially for transfers; “Service unattractive to choice riders.”
Span of Service	C	14-16 hours of service per day	Early evening service provided; Transit is available for typical work trips
Coverage	B-C	70 to 89.9 % of transit-supportive areas served	Most major destinations and high-density areas are within walking distance of a transit route

Customer Experience

TCRP Level of Service (LOS) Analysis (Continued)

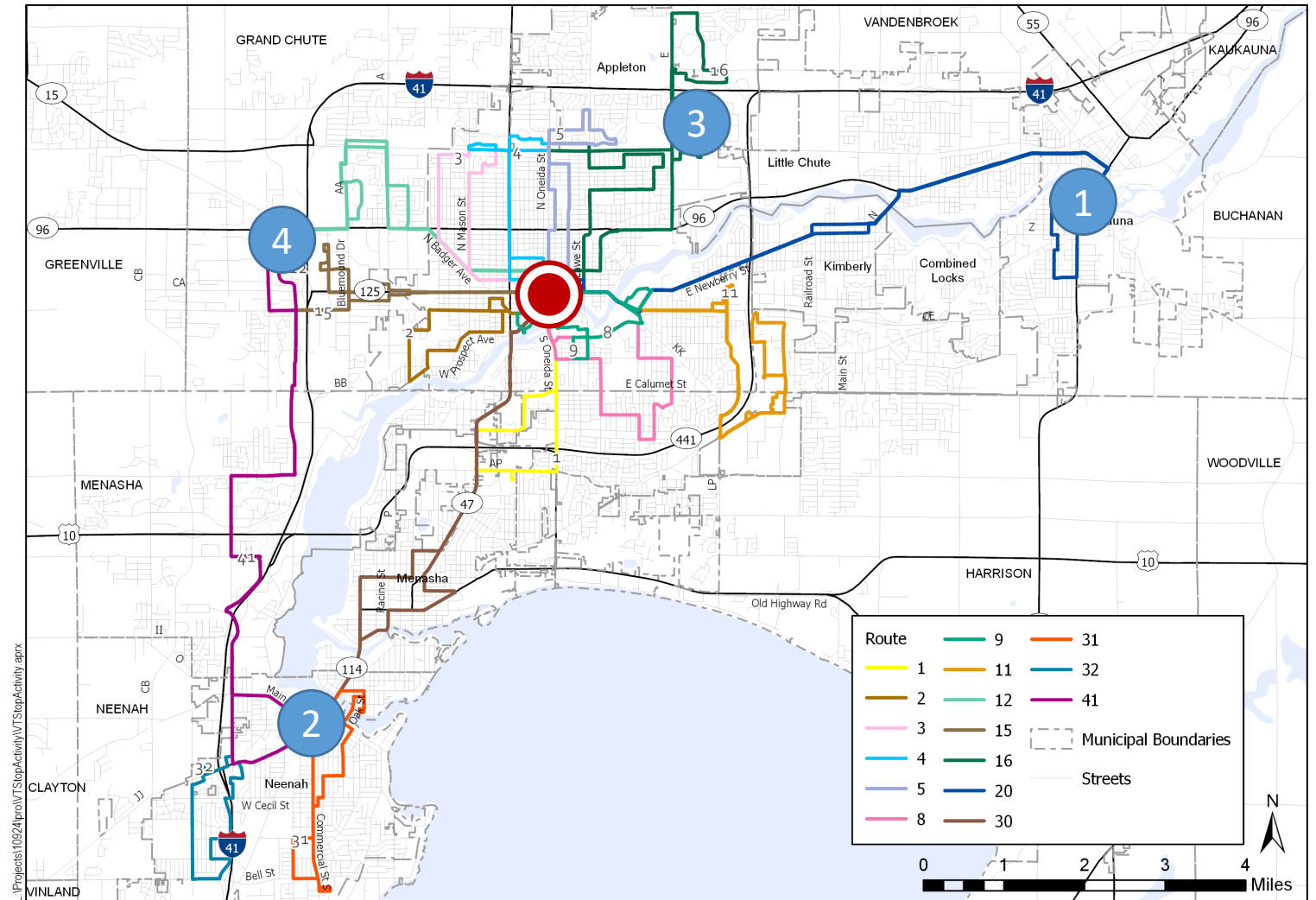
Category	LOS	Description	Customer Perspective
Loading	A-C	50% to 100% of seated capacity	Seats are typically available for all passengers
Reliability	A-B	90% to 100% of trips on-time	Customers experience a late trip once every 1-2 weeks on average
Travel Time Comparison	B-F	B: <15 min slower than car F: >60 min slower than car	Some trips are almost as fast by transit as by car. Certain trips are MUCH slower; TCRP describes these as “ unacceptable to most riders. ”

Example Trips

To/From Downtown Appleton



	Destination	Travel Time
1	Kaukauna (Route 20)	Car: 17 min Bus: 21 min (+24%)
2	Neenah (Route 30)	Car: 18 min Bus: 25 min (+38%)
3	Encircle Health (Route 16)	Car: 12 min Bus: 29 min (+142%)
4	Fox River Mall (Route 15)	Car: 14 min Bus: 35 min (+150%)



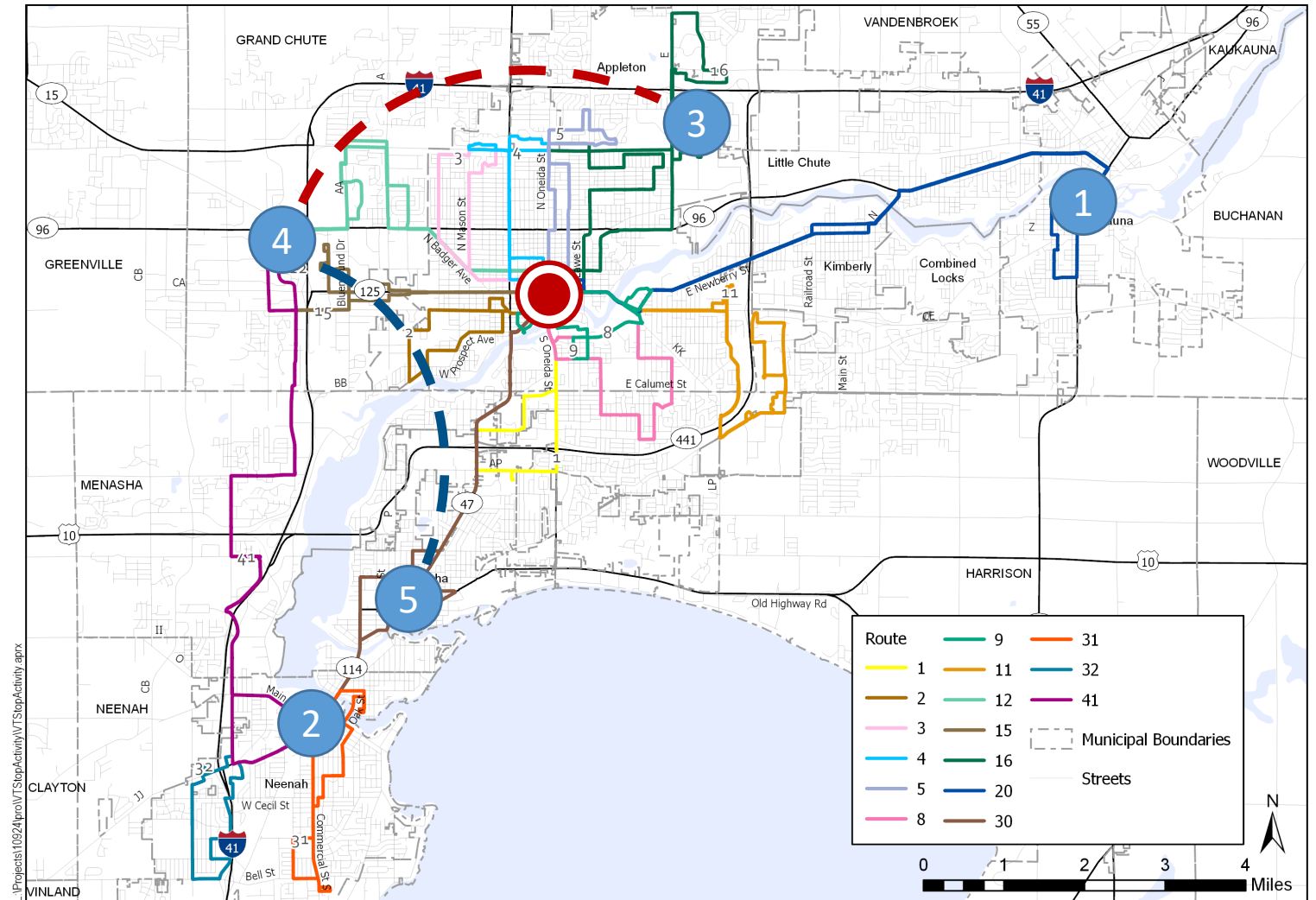
Example Trips

To/From Fox River Mall ④

Destination	Travel Time
③ Encircle Health (Routes 12/16)	Car: 12 min Bus: 60 min (+400%)
⑤ Menasha (Routes 15/30)	Car: 12 min Bus: 80 min (+567%)

Longer travel times for

- Crosstown trips
- Trips requiring transfers



Discussion

Service Concepts

Organizing Service Concepts

- **Scenario 1: Modification of Current Services**

Changes to existing Valley Transit routes. These recommendations are designed to improve frequency and/or on-time performance without major changes to route alignments.

- **Scenario 2: Service Expansion and Restructuring**

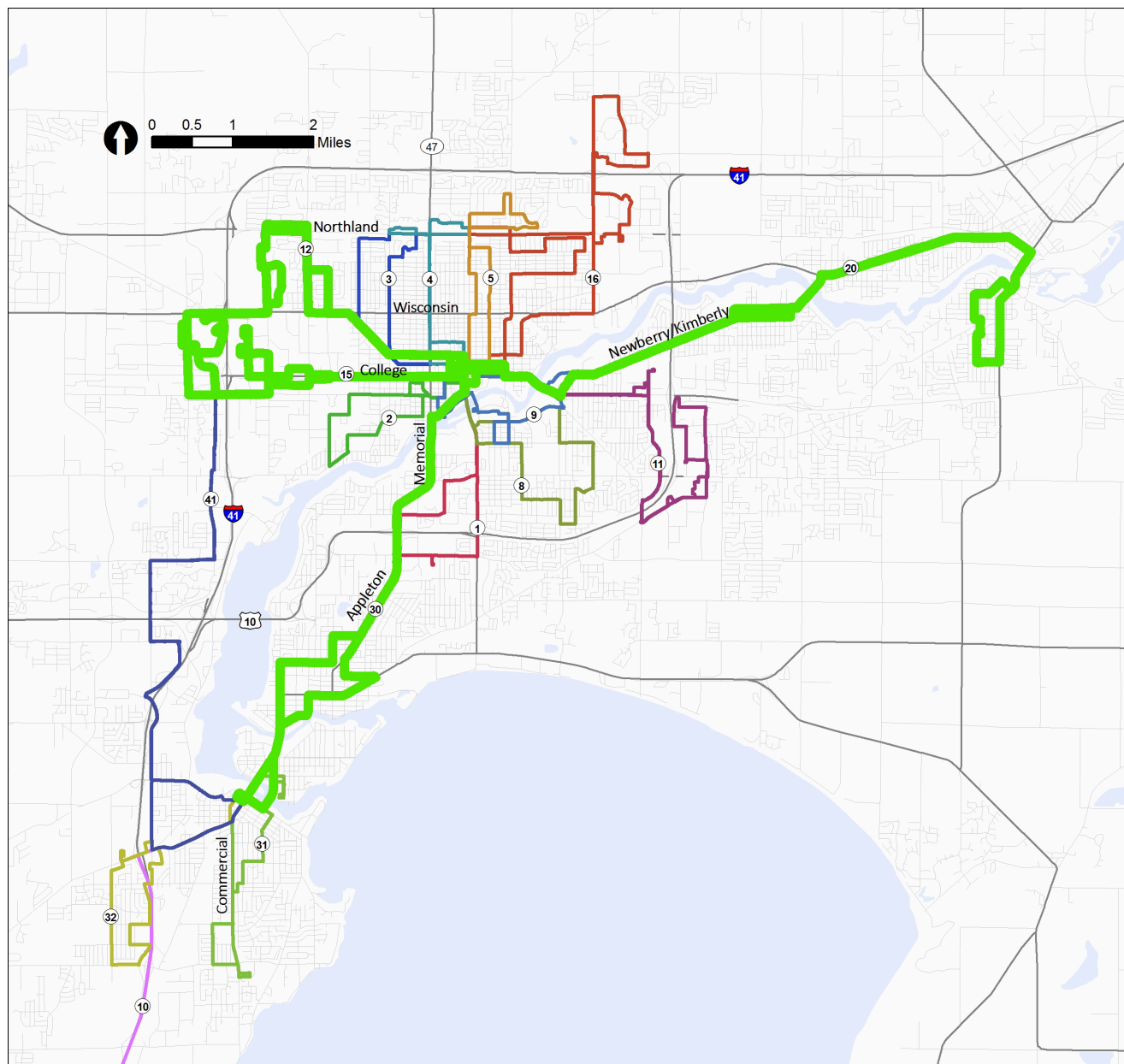
New or restructured routes. These recommendations are designed to improve frequency, streamline low-productivity routes, and offer new regional connections.

Scenario 1

Modification of Current Services

Concept 1A: Frequency Enhancements

- Analysis of stakeholder feedback, TCRP level-of-service, and route-level productivity data supports enhanced frequency along high-ridership corridors
- Establishing a network of high-frequency routes can improve transfer opportunities, making more trips competitive with car-based travel
- These high-frequency routes can support transit-oriented development, as well as the focused implementation of transit amenities (bus stops, shelters, real-time signage)



Concept 1A: Frequency Enhancements

- Route 12 – FVTC
- Route 15 – W. College
- Route 20 – Heart of the Valley
- Route 30 – Neenah-Menasha
- These are Valley Transit's highest ridership routes, despite only hourly service.
- **Recommendation:** Increase frequency to every 30 minutes.

Concept 1A: Frequency Enhancements

Route	Current Service	Proposed Service	Additional Weekday O&M Cost
Route 12 – Fox Valley Tech	6:45 AM – 9:45 PM Every 60 minutes	6:15 AM – 10:15 PM Every 30 minutes	+4,335 revenue hours +1 peak bus
Route 15 – West College	6:15 AM – 10:15 PM Every 60 minutes	6:15 AM – 10:15 PM Every 30 minutes	+4,080 revenue hours +1 peak bus
Route 20 – Heart of the Valley	5:45 AM – 10:45 PM Every 60 minutes	6:15 AM – 10:15 PM Every 30 minutes	+4,335 revenue hours +1 peak bus
Route 30 – Neenah / Menasha	5:45 AM – 10:45 PM Every 60 minutes	6:15 AM – 10:15 PM Every 30 minutes	+4,335 revenue hours +1 peak bus
Total			+16,065 revenue hours (\$1,328,012 annually) +4 peak buses

Concept 1B: Minor Route Adjustments

- Detailed analysis of Valley Transit operations, including on-time performance and stop-level ridership, has yielded additional recommendations to improve the functioning of existing routes.
- These minor recommendations can help streamline trips and/or better match service to demand throughout the day, at minimal cost to the agency.

Concept 1B: Minor Route Adjustments

- **Route 2:**

Eliminate loop serving Boys and Girls Club at Badger Avenue and Lawrence Street, which is served more directly by Route 15.

Cost: \$0.

- **Route 11:**

Adjust schedules to serve Valley Packaging at scheduled shift times only, or deviate upon request. This could help improve on-time performance for the majority of trips.

Cost: \$0.

Concept 1B: Minor Route Adjustments

- **Route 12:**

Realign route to offer bidirectional service along Northland Avenue between Lynndale and Bluemound, and along Perkins Street between Glendale and Wisconsin. This would address on-time performance issues with the current route alignment.

Cost: \$0.

- **Route 16:**

Adjust schedules to serve Valley Packaging at scheduled shift times only, or deviate upon request. Also, utilize a school tripper to offer a direct afternoon trip from Valley Packaging to downtown.

Cost: \$0 - Minimal.

Minor Route Adjustments

Scenario 2

Service Expansion and Restructuring

Concept 2A

Route 15 Restructuring

Concept 2A: Route 15 Restructuring

Major Issues

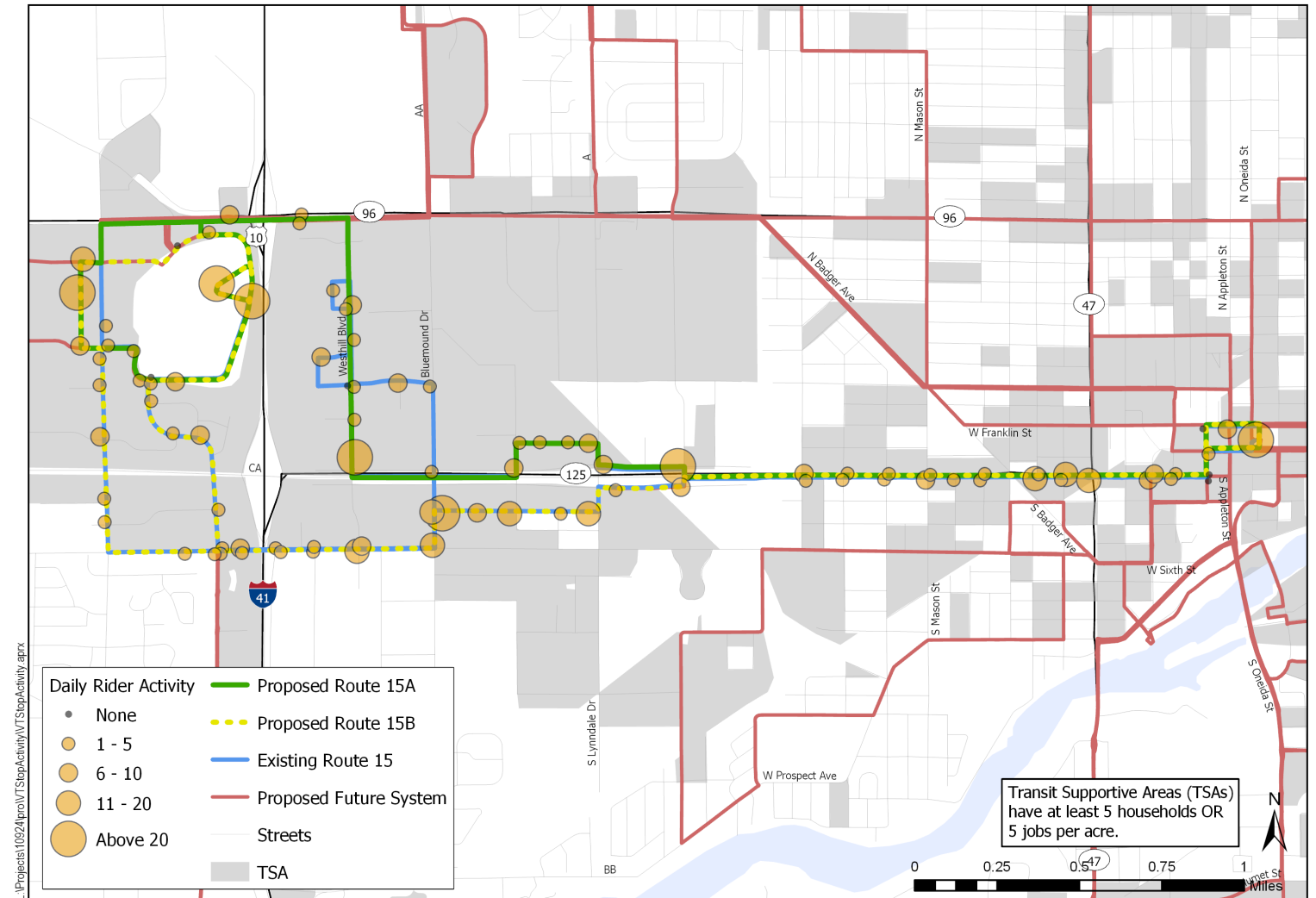
- Route 15 serves major activity centers, but has routing and travel times that are not competitive with other modes
- Need for more convenient connections to major generators of transit service

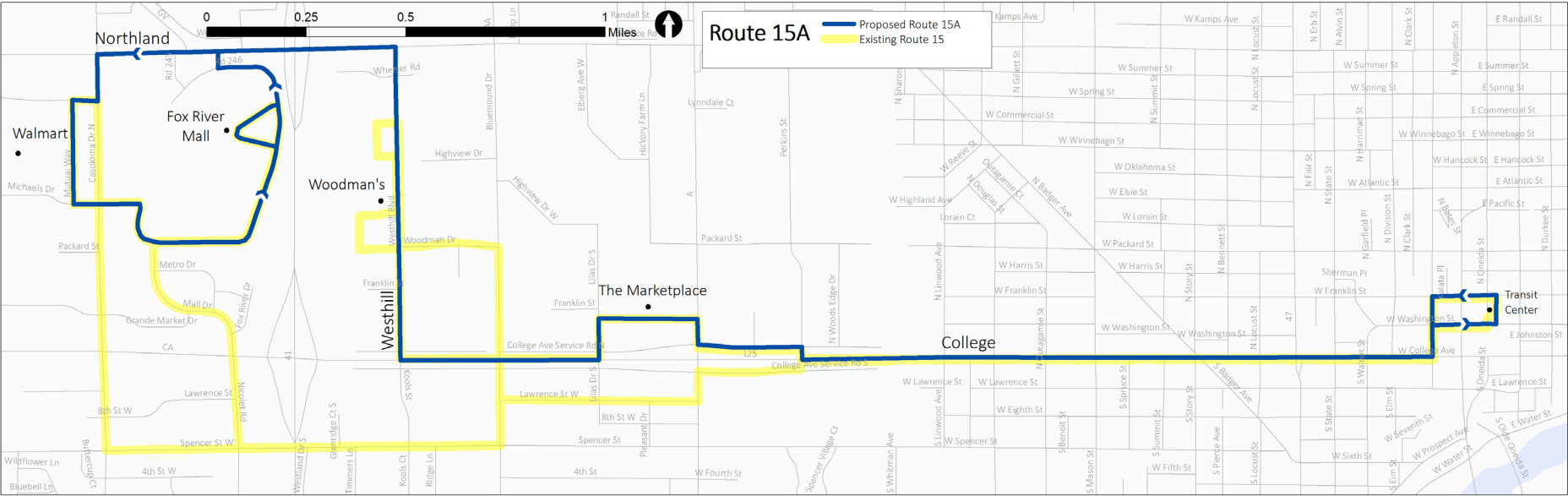
Recommendation

- Split Route 15 into two separate alignments to offer faster, more reliable travel times
- Increase overall frequency on College Avenue

Concept 2A: Route 15 Restructuring

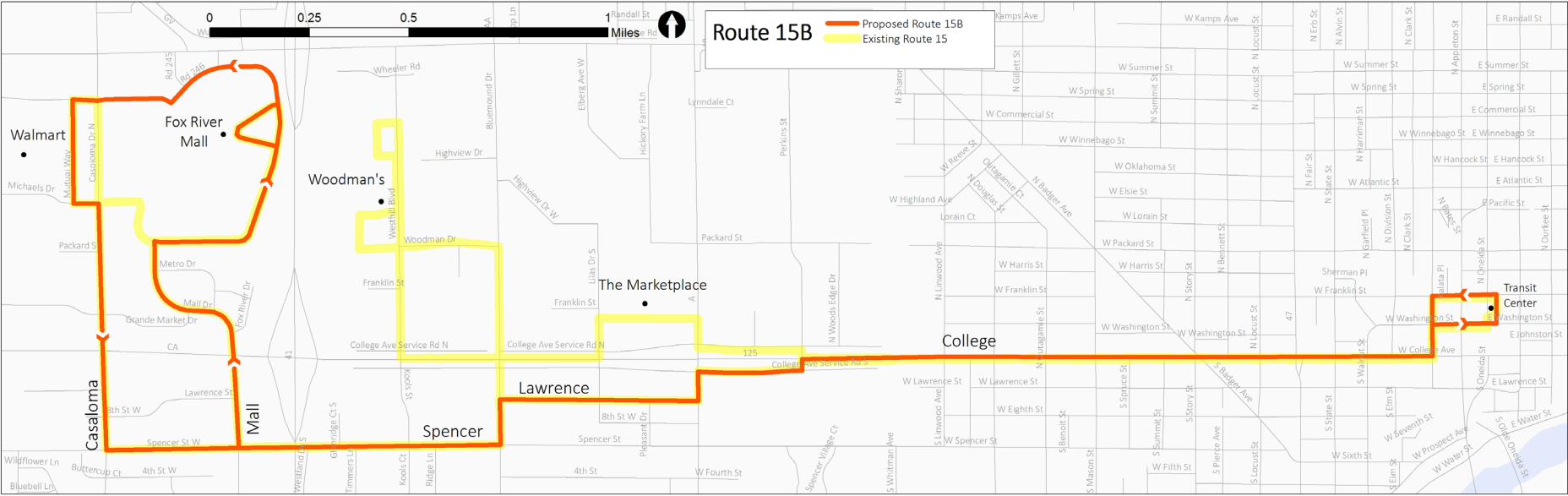
- Alternating schedules, each operating at least once every 60 minutes
- Service at least every 30 minutes on shared segments and between downtown and Fox River Mall





Route 15A

Detailed Route Alignments



Route 15B

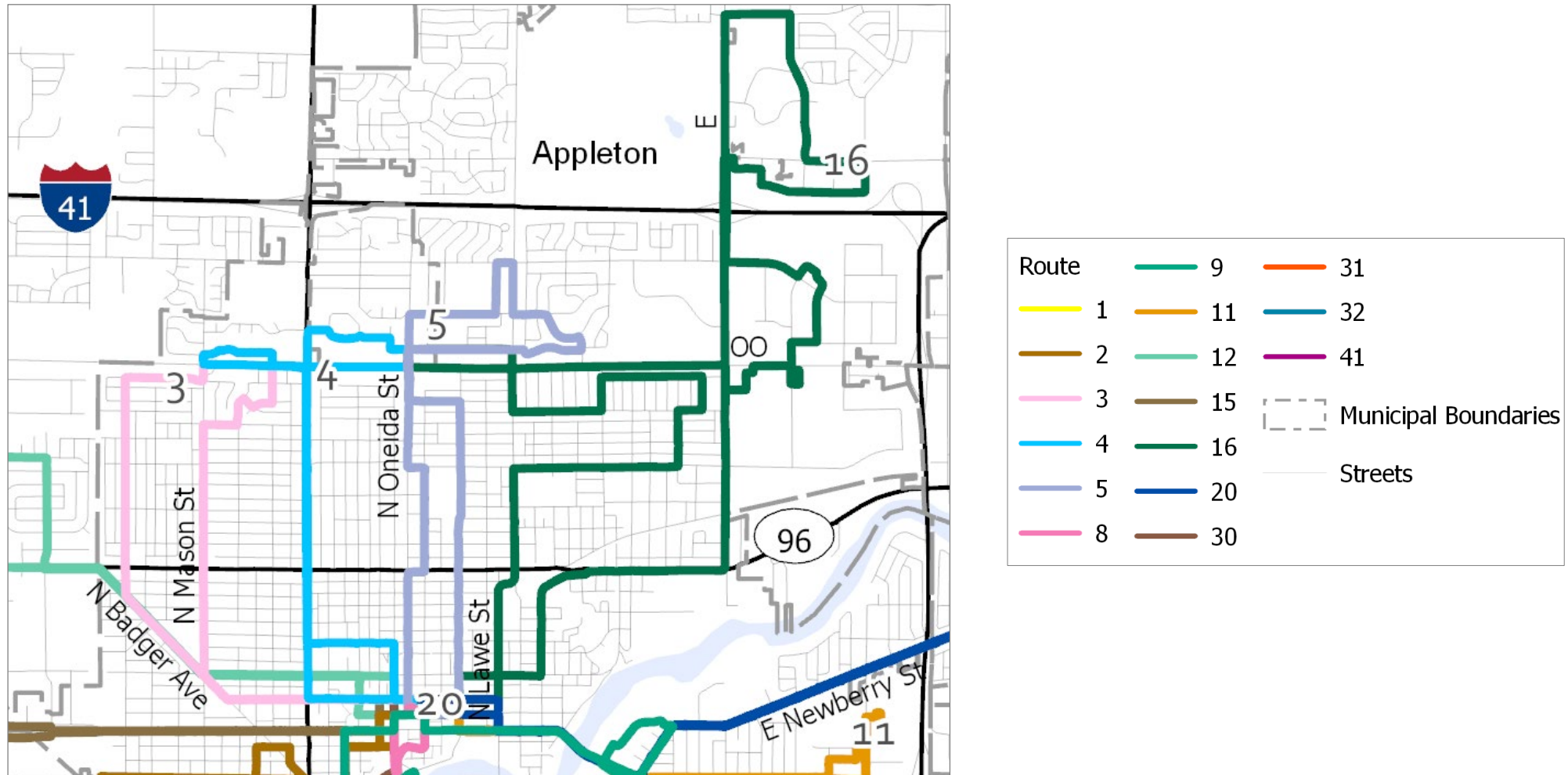
Concept 2A: Route 15 Restructuring

Route	Current Service	Proposed Service	Additional Weekday O&M Cost
Route 15A – West College (North Route)	Combined Route: 6:15 AM – 10:15 PM Every 60 minutes	6:15 AM – 10:15 PM Every 60 minutes	Combined Route: +4,080 revenue hours +1 peak bus
Route 15B – West College (South Route)		6:45 AM – 10:45 PM Every 60 minutes	
Total			+4,080 revenue hours (\$332,003 annually) +1 peak bus

Concept 2B

North Service Area Restructuring
(Routes 3, 4, 5, 6/16)

North Service Area Restructuring (Routes 3, 4, 5, 16)



North Service Area Restructuring (Routes 3, 4, 5, 16)

Major Issues

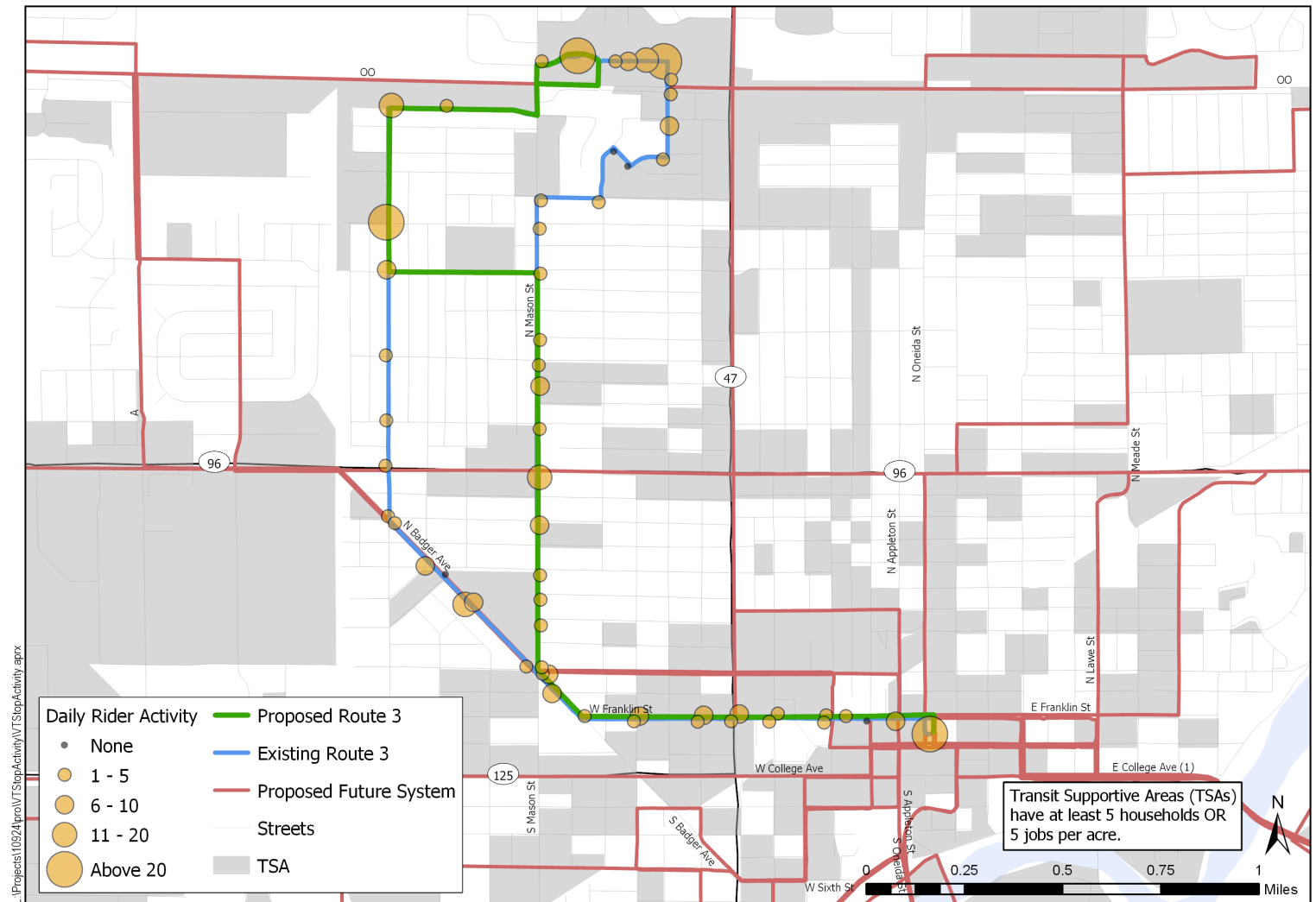
- Routes are designed as one-way loops, which offer the appearance of coverage, but inconvenient service
- Crosstown trips require multiple transfers and/or travel downtown
- Route 16 is especially inefficient and requires twice as many buses as other routes

Recommendations

- Streamline routes to provide faster, bidirectional service along high-ridership corridors
- Maintain approximately ½ mile spacing between routes
- Implement in conjunction with new crosstown routes (Concept 2C)

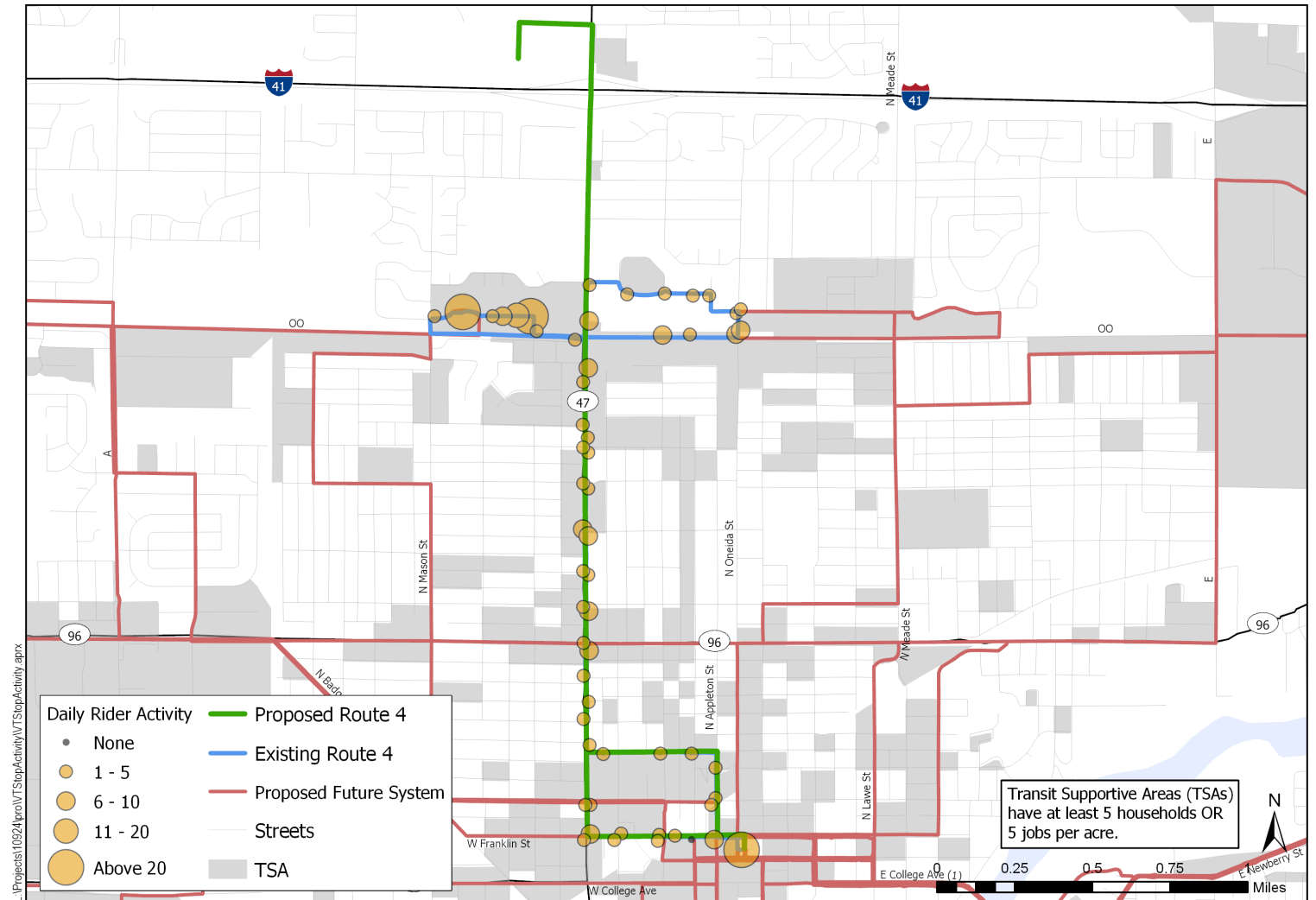
Route 3 – Mason

- Bi-directional service on highest ridership segments via Mason, Glendale, and Linwood
- Discontinue service on Linwood, Badger, and on Mason north of Glendale



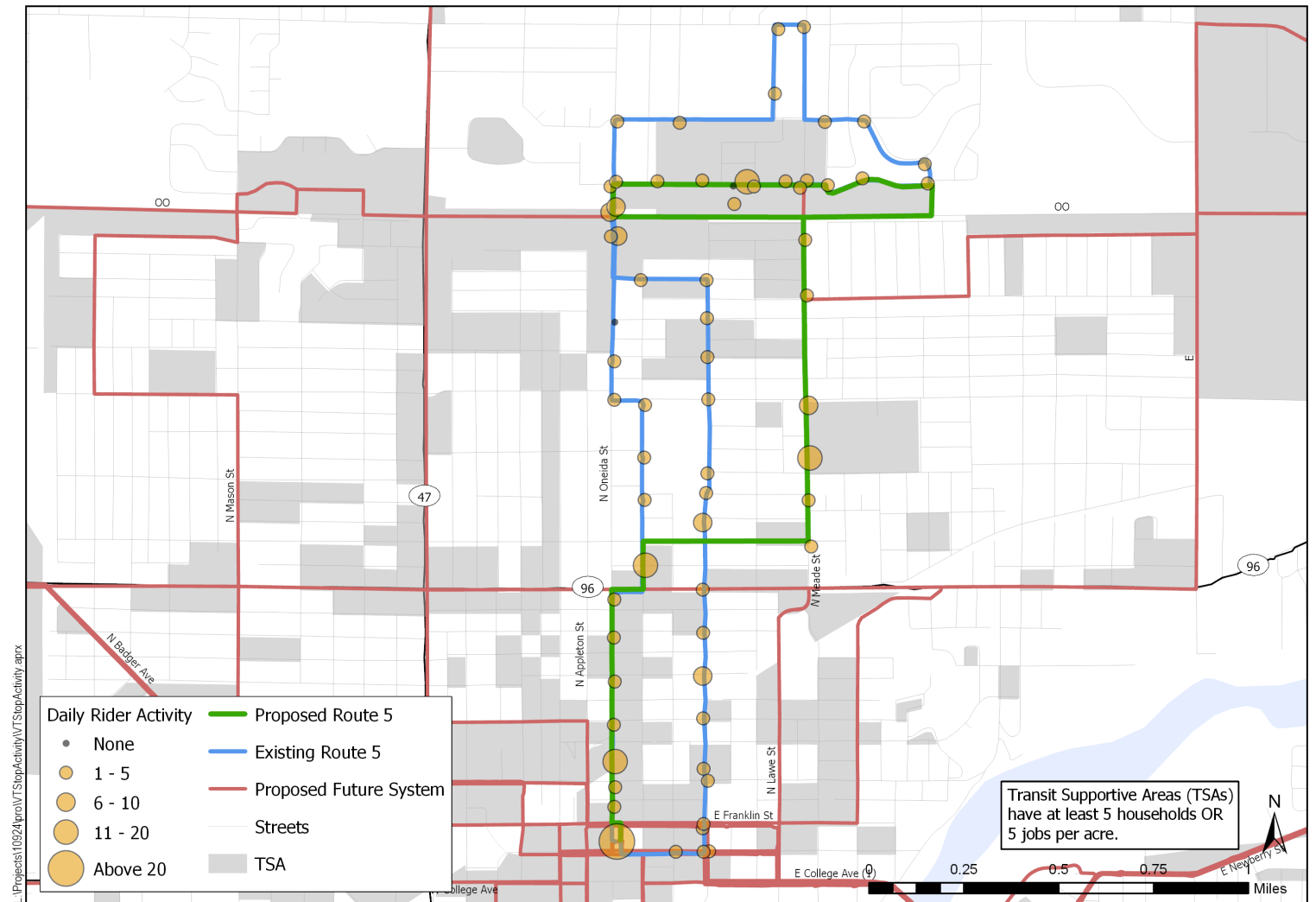
Route 4 – Richmond

- Bi-directional service on Richmond Street
- Streamline routing near Northland Mall
- Extend service to Meijer (north of I-41)
- Areas with discontinued service are within walking distance of Richmond



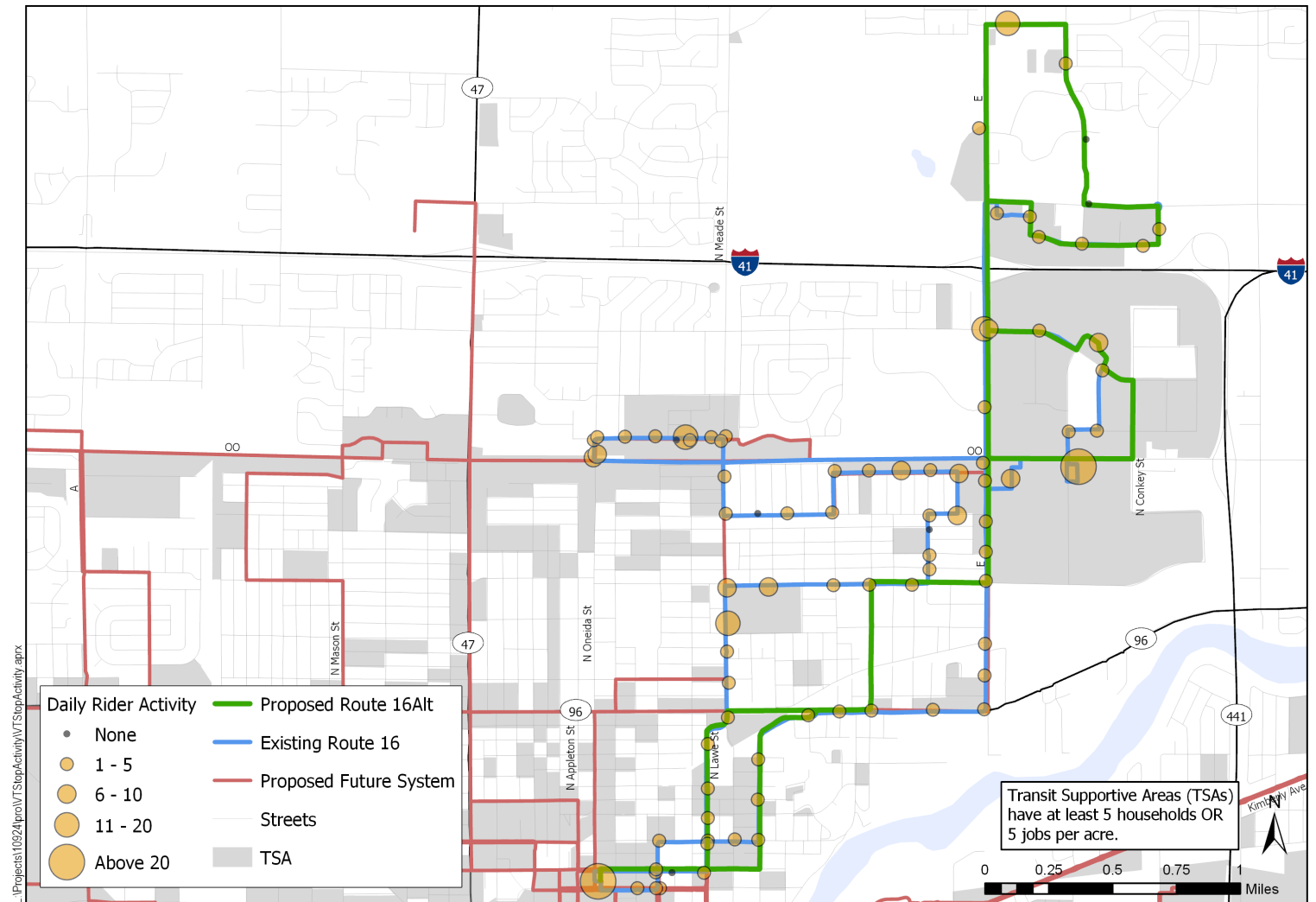
Route 5 – North Oneida

- Operate a single alignment along Oneida, Brewster, and Meade to reach Northland Avenue
- Streamline counterclockwise loop at north end of route
- Maintains approximate 1/2 mile spacing between routes



Route 16 – Northeast

- Introduce bi-directional service via Wisconsin, Owaissa, Glendale, and Ballard
- Reduce east-west coverage (helped by changes to Route 5)
- Consolidate with Evening/Sat Route 6
- Reduce service to every 60 minutes



Concept 2B: North Service Area Restructuring

Route	Current Service	Proposed Service	Additional Weekday O&M Cost
Route 3 – Mason	6:15 AM – 9:45 PM Every 30 minutes peak, 60 minutes off-peak	6:15 AM – 10:15 PM Every 30 minutes	+1,403 revenue hours +0 peak buses
Route 4 – Richmond	6:15 AM – 10:15 PM Every 30 minutes peak, 60 minutes off-peak	6:15 AM – 10:15 PM Every 30 minutes	+1,403 revenue hours +0 peak buses
Route 5 – North Oneida	6:15 AM – 9:45 PM Every 30 minutes peak, 60 minutes off-peak	6:15 AM – 10:15 PM Every 30 minutes	+1,403 revenue hours +0 peak buses
Route 16 – Northeast *Evening/Saturday svc provided by Route 6	6:15 AM – 5:15 PM Every 30 minutes peak, 60 minutes off-peak	6:15 AM – 10:15 PM Every 60 minutes (Eliminate Route 6)	-638 revenue hours -1 peak bus
Total			+3570 revenue hours (\$290,503 annually) -1 peak bus

Concept 2C

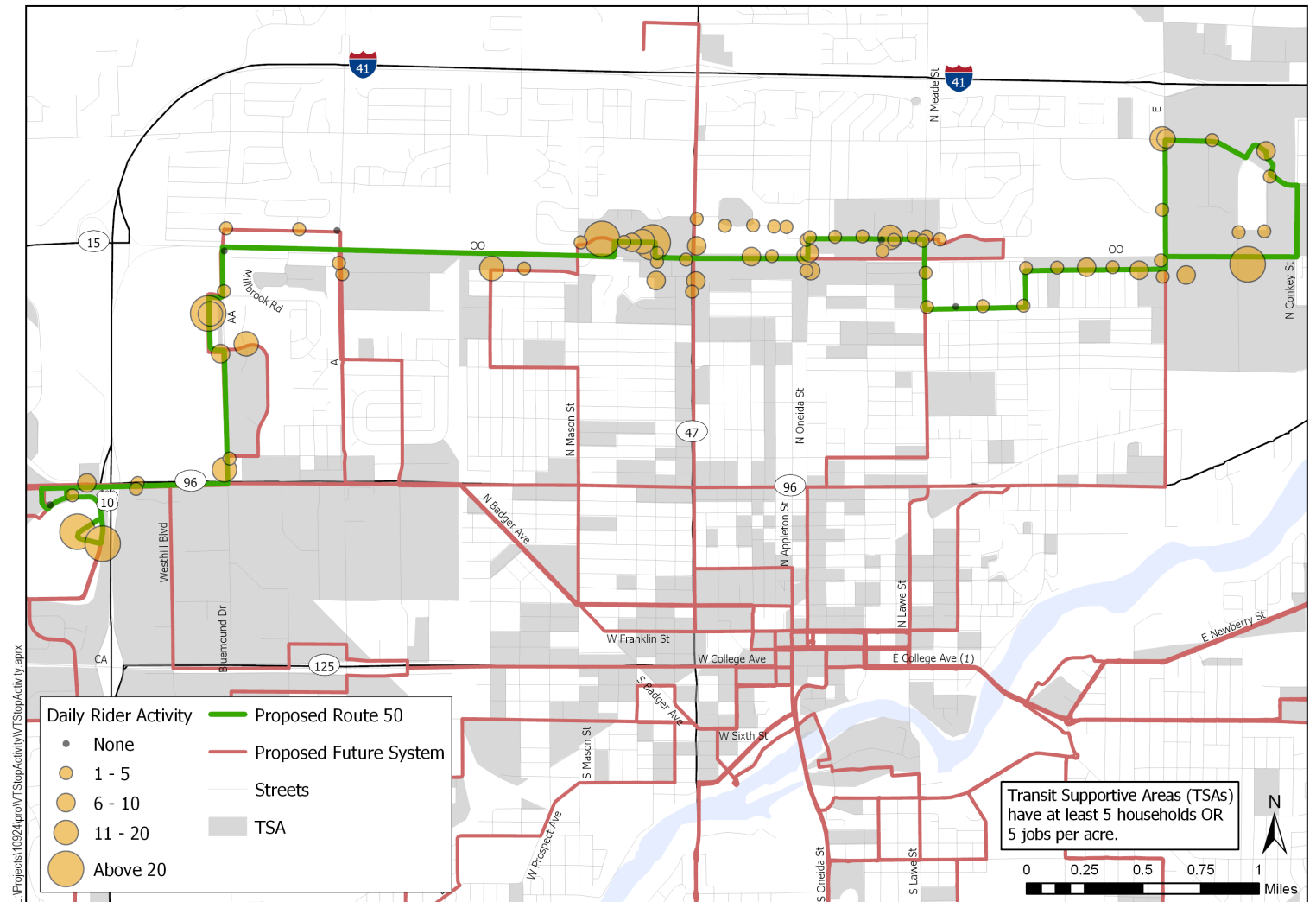
Crosstown Service (Routes 50, 55, & 60)

Crosstown Service

- During the public outreach process, a number of stakeholders expressed a desire and need for crosstown service, which would enable customers to travel between many of the region's destinations without traveling downtown.
- This could be addressed by combining streamlined north-south routes with new crosstown options:
 - Route 50 – Northland Avenue
 - Route 60 – Wisconsin Avenue
 - Route 55 – E. College / Kaukauna

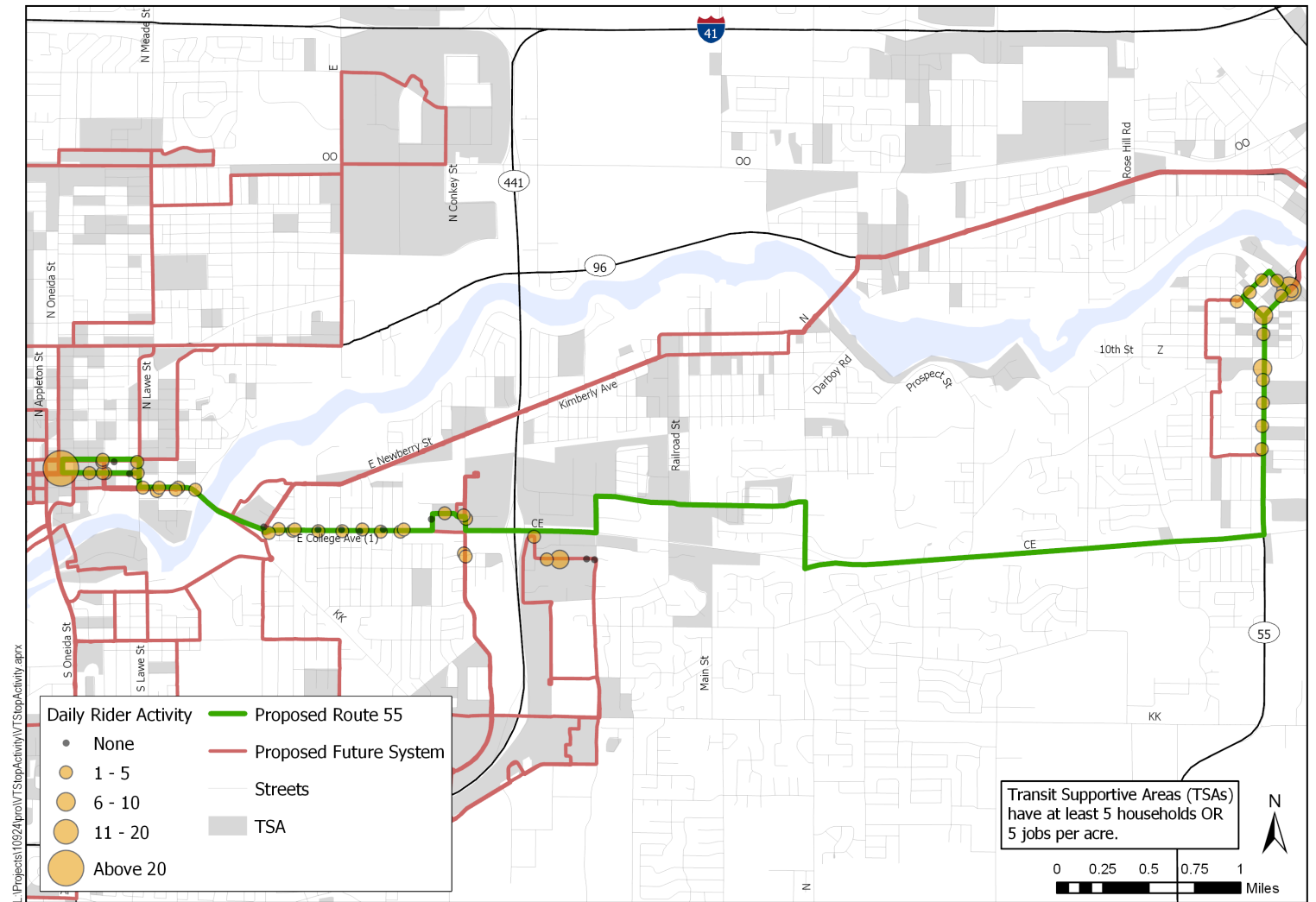
Route 50 – Northland Avenue

- East-west crosstown service between Encircle Health and Fox River Mall
- Covers some area previously served by Route 16
- North-side access to Northland Mall, FVTC, Fox River Mall
- Connects to Routes 3, 4, 5, 12, 15, 16



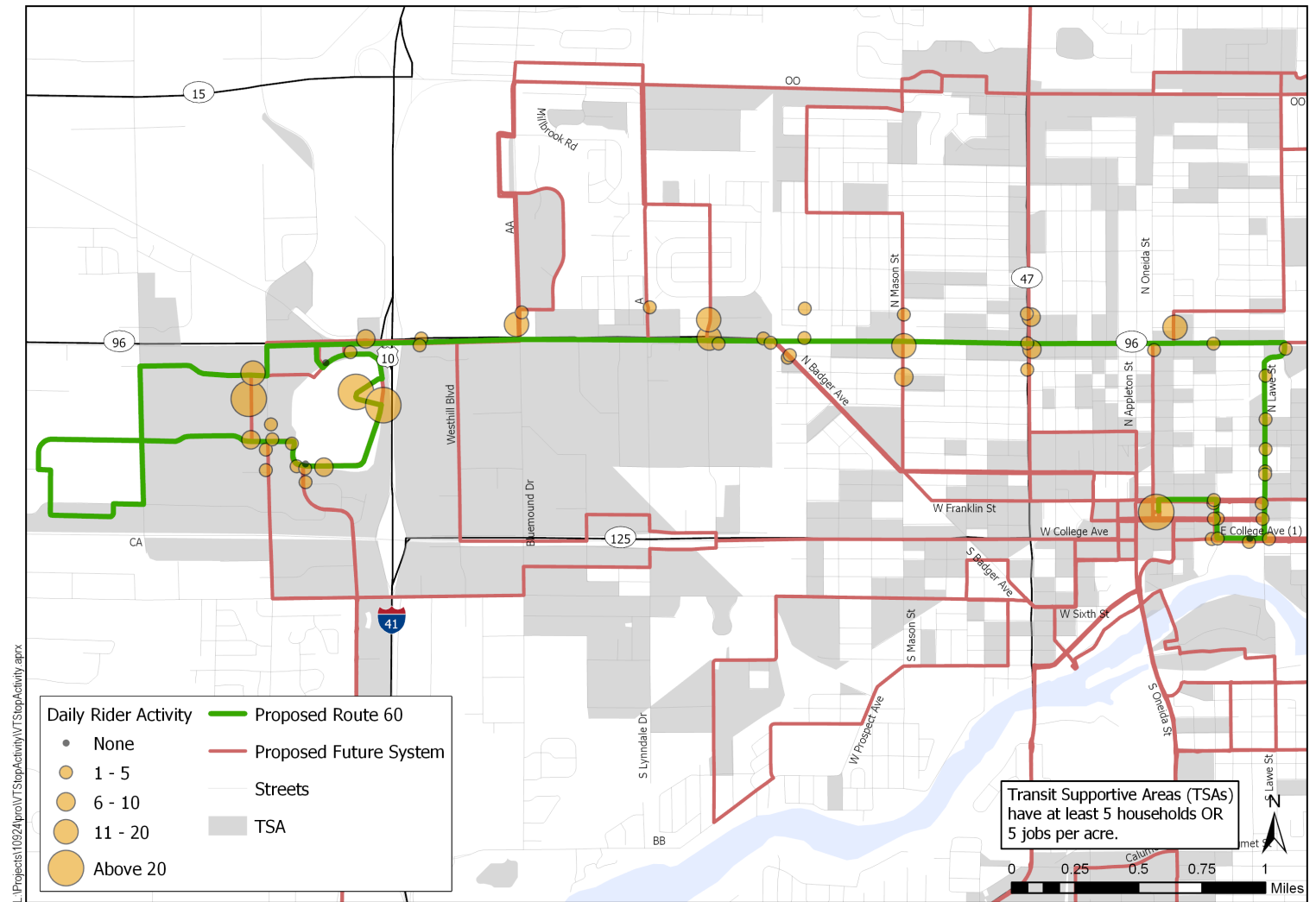
Route 55 – E. College / Kaukauna

- East-west service between downtown Appleton and Kaukauna via College Avenue
- Faster service, better connections to east-side municipalities
- Connects to Routes 11, 20, and downtown transit center



Route 60 – Wisconsin Avenue

- East-west crosstown service between downtown Appleton and Grand Chute
- Access to Fox River Mall and points west (e.g., Costco); potential extension to airport
- Connects to Routes 3, 4, 5, 12, 15, 16



Concept 2C: Crosstown Service

Route	Current Service	Proposed Service	Additional Weekday O&M Cost
Route 50 – Northland Ave	NEW	6:15 AM – 10:15 PM Every 60 minutes	+4080 revenue hours +1 peak bus
Route 55 – E. College/Kaukauna	NEW	6:15 AM – 7:15 PM Every 60 minutes	+3,315 revenue hours +1 peak bus
Route 60 – Wisconsin Ave	NEW	6:15 AM – 10:15 PM Every 60 minutes	+4080 revenue hours +1 peak bus
Total			+11,475 revenue hours (\$933,760 annually) +3 peak buses

Flex Route Service

Flex Route Service

- Definition:
A hybrid of fixed route and demand response services. Scheduled time points within a zone or corridor, curb-to-curb service
- Can be “corridor based” or “transfer point” based
- Valley Connector is an example of a type of “Flex Route” service



Flex Route Service

Advantages

- Lower cost per rider than pure demand response service
- Offers more flexibility than a fixed route service
- Can serve low density development effectively
- Transfers to fixed routes are feasible and seamless
- Schedules and stops provide a visible service

Disadvantages

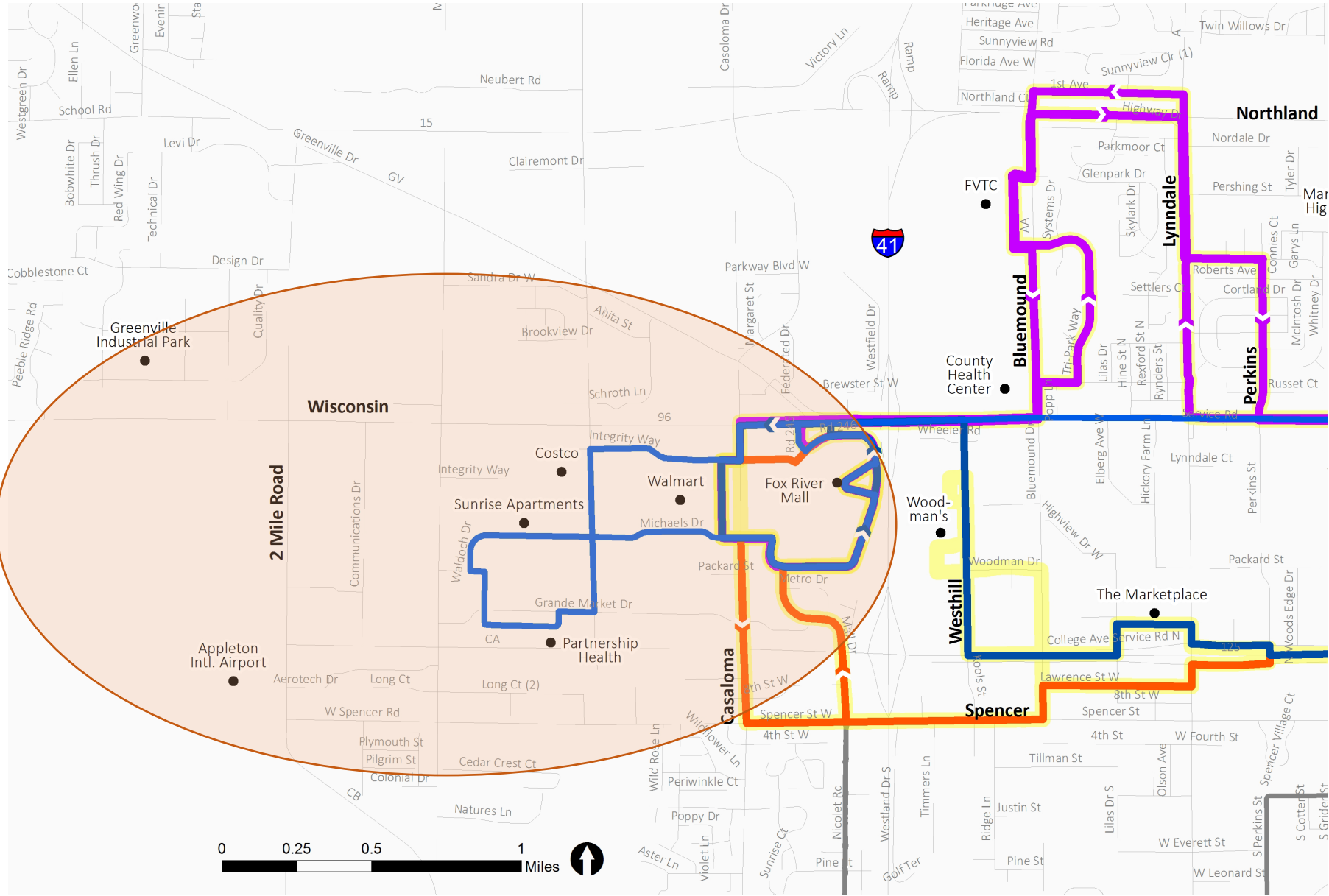
- Ridership is constrained by capacity and travel time
- City and potential contractor resources devoted to administration
- Potential long-term commitment to providing demand response transit

Flex Route Service

- Best applied in small zones or lower density areas
- A viable strategy for replacing low ridership route segments, but this proved difficult to apply in Valley Transit's network given the low growth potential. First option should be to grow ridership in these areas before “downscaling” from the fixed route mode.
- Opportunities
 - Grand Chute, Greenville
 - Menasha
 - Evenings/Late Night

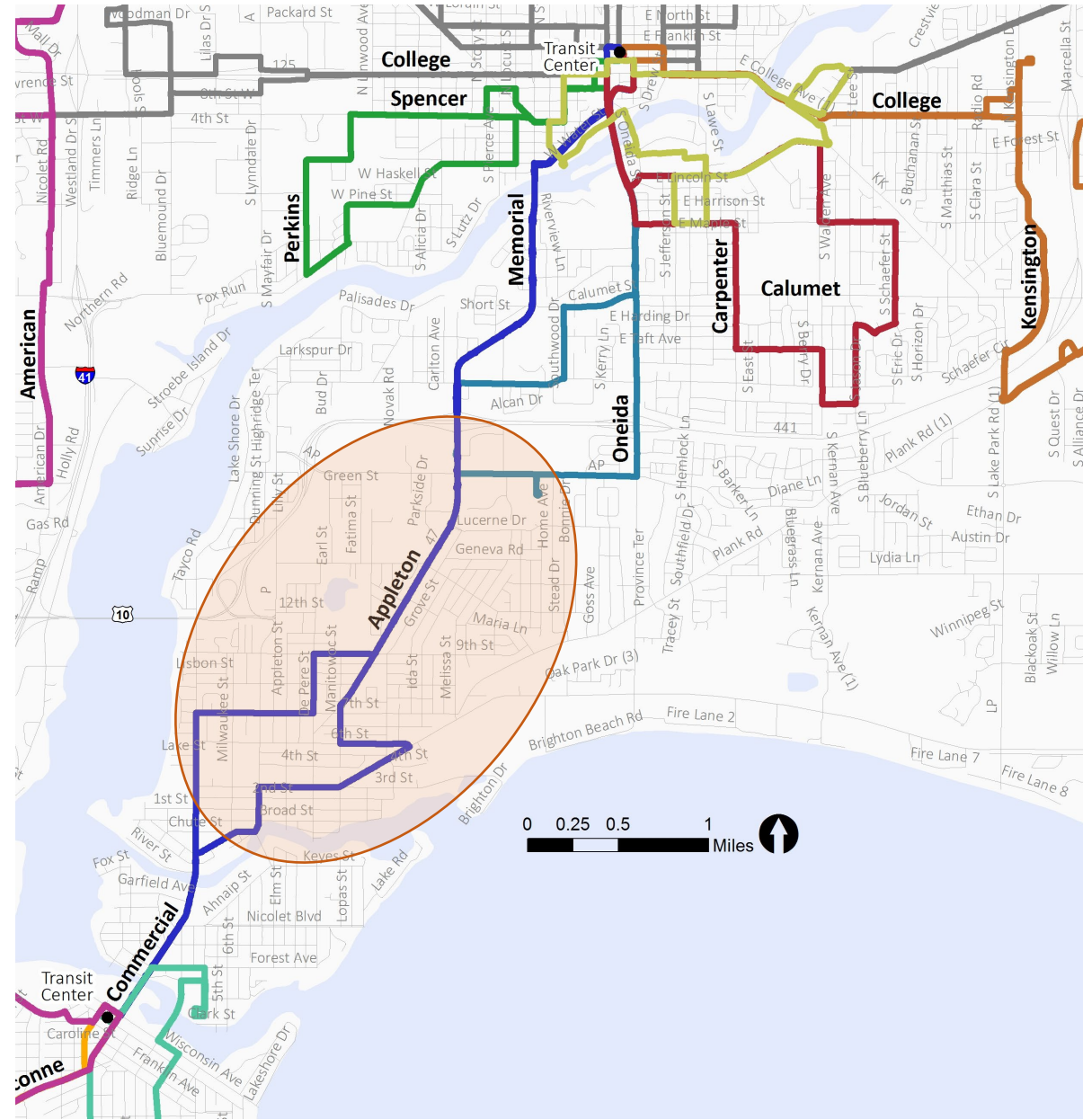
Flex Route Service

Grand Chute/ Greenville



Flex Route Service

Menasha



Additional Recommendations

Service Development Standards

Strategic Plan Performance Measures

- Subsidy per Passenger
- Passengers per Revenue Hour
- Capital Facility Coordination
- Equity
 - Benefits to people with disabilities
 - Benefits to minority and low income populations
- Population and Employment Density
- Funding Support

Additional Measures

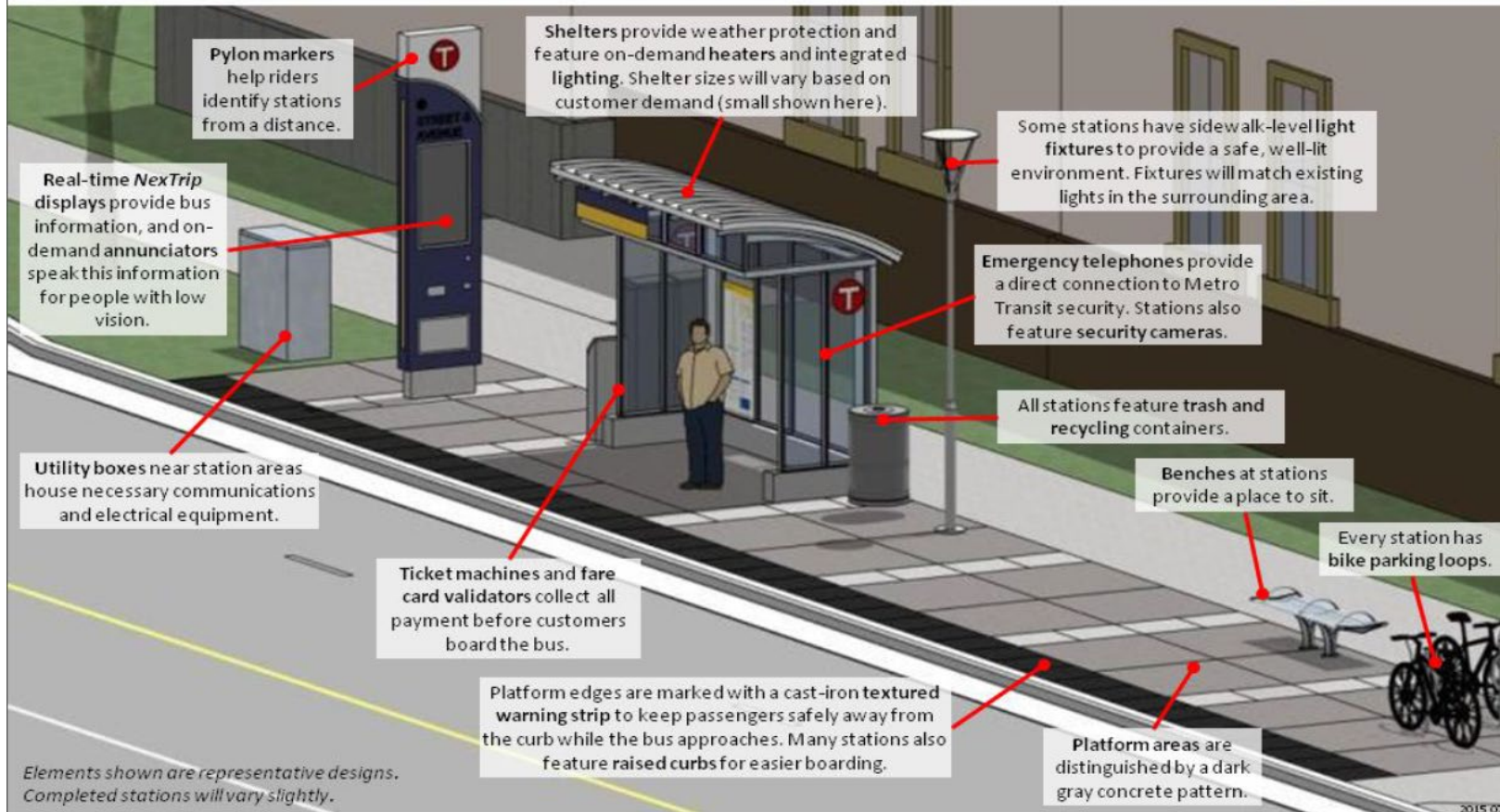
- Sidewalk Score
- Transit Supportive Land Use
- Intersection Density

Reliability Improvements

- “Fill” or “Stub” buses – staged throughout community during peak demand or times when there are known performance issues
- Bus stop alignment
- Rapid Bus or Enhanced Bus Service
 - Transit stations with heated, sheltered waiting areas that provide real-time information
 - Limited stop, or express service
 - Pre-boarding fare payment to speed the process of boarding the bus
 - High frequency service
 - Branded vehicles and signage
 - Transit signal priority

Rapid Bus Service

Station Platform Design

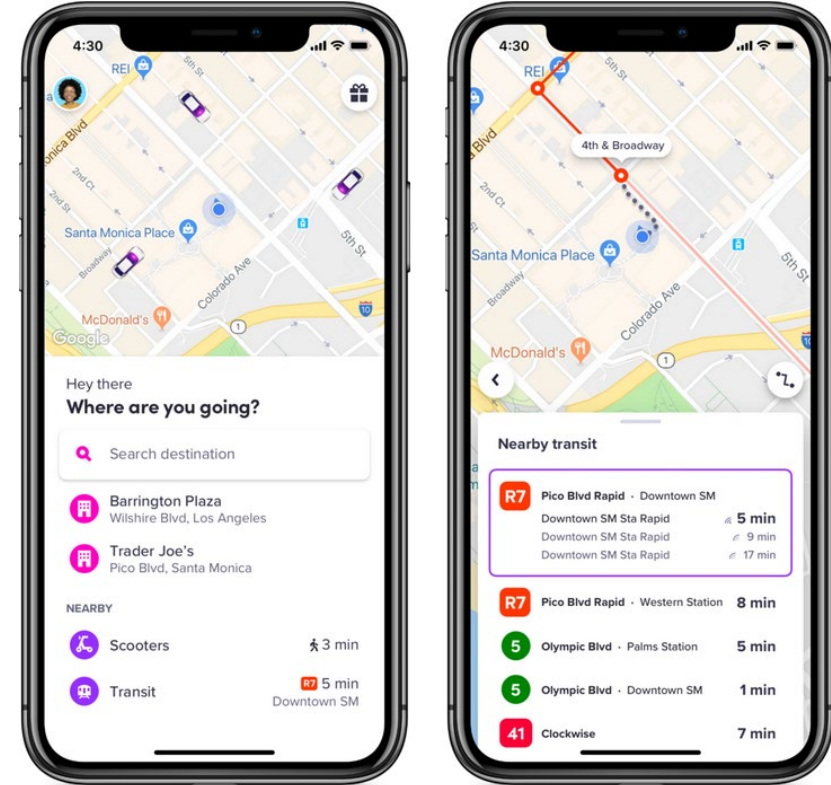


Infrastructure Improvements

- Bus Stops and Shelters -- \$75,000 - \$100,000 per year
- Commuter and Mobility Hubs
- Transfer Center Rehabilitation and Replacement

Strategic Recommendations

- Marketing
- Emerging Transportation Modes
- Transportation Network Companies
 - Service Agreements
 - Technology Integration
 - Marketing Partnerships
- Car Sharing Services
- Connected and Autonomous Vehicles



Discussion