RMTD Comprehensive Mobility Analysis

Implementation Plan

February 2022

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1. Introduction

In 2018, the Rockford Mass Transit District (RMTD) and Region 1 Planning Council (RPC) were awarded Statewide Planning and Research funds from IDOT to complete a Comprehensive Mobility Analysis for RMTD's service area. The project follows a four-step process of Market Analysis, Service Evaluation, Alternatives Analysis, and Implementation. The first two steps, Market Analysis and Service Evaluation, were largely completed by RPC and RMTD by late 2020. In 2021, Sam Schwartz was hired to guide the project to completion.

The RMTD Comprehensive Mobility Analysis is a multi-faceted plan that combines the immediate nature of a typical Comprehensive Operations Analysis (COA) with the long-term visioning of a Transit Development Plan. It provides a roadmap for the development of public transit services in the Rockford region over the next five to ten years.

This report documents the results of the process, first by recapping the Market Analysis and Service Evaluation memorialized in the May 2021 Existing Conditions Report. This analysis included a detailed evaluation of the area's population, employment, and levels of transit demand, finding that the key destinations are generally served well, but there are some pockets of untapped demand as well as some areas with excess service. The analysis next considered long-term trends impacting RMTD. These trends were relatively stable until the disruption from COVID-19 beginning in March 2020. It compared RMTD with peer agencies serving similar communities, and found that RMTD generally had lower service levels than its peers. Finally, ridership patterns and route performance indicators were studied in detail. These considerations suggested that several routes or corridors could support increased frequency, a larger number of routes could benefit from increased service span, and another set of routes serve coverage markets and/or might benefit from restructuring.

The report then describes four phases of service improvements based on the findings of the Market Analysis and Service Evaluation. Note that these phases are additive, building upon each other:

- **2021-2022 Schedule Improvements**
  - **Phase 1** – Weekday span improvements in effect since November 29, 2021
  - **Phase 2** – Weekend span improvements planned for the second half of 2022
- **Future Service Improvements**
  - **Phase 3** – Improved peak frequency on several high-demand routes
  - **Phase 4** – Network changes to address structural issues

The future improvement phases are analyzed in terms of resources needed including required operators and vehicles, operator hours, driver runs and estimated operating costs. Table 1 shows the estimated operation costs of each phase (other metrics are presented later in this report). To support this, detailed scheduling was completed for each phase. We also considered each phase's overall strengths and weaknesses per the objectives and guiding principles of the Comprehensive Mobility Analysis. As discussed in the existing conditions section, these include improving rider travel times, expanding operating hours, maximizing service coverage, operating symmetrical, direct routes at regular intervals, serving well-defined travel markets, and better coordinating overall service.

Table 1 - Estimated Operating Cost of Planned Phases
Note that costs are shown in 2022 dollars.[1]

Phase	Estimated Annual Operating Costs	% Change Compared to Baseline
October 2021 (baseline)	$14,552,942	N/A
Phase 1 - Weekday span	$15,312,136	5%
Phase 2 – Weekend span	$15,874,047	9%
Phase 3 - Peak frequency	$17,928,020	23%
Phase 4 - Network restructuring	$19,237,267	32%

The first two phases will substantially improve morning and evening service span. These phases are already approved for implementation, and together they increase annual operating costs by about $1.3m. They help address the goal of improved span to support all-day travel patterns.

The third phase invests another approximately $2.1m annually in improved frequency on several routes that have strong performance and could support 30 minute frequency. This will improve the customer experience and reduce wait times. Phase 3's improvements fit within the existing RMTD route structure, thereby minimizing disruption during implementation.

Finally, the fourth phase is more ambitious, seeking to realign the route network itself to address structural issues identified as part of the Existing Conditions Assessment. It would create new routes on Rockton, Broadway, East Riverside, and Harrison, while consolidating some other routes. It adds $1.3m annually beyond the Phase 3 costs, and will address a broader set of goals including service directness, network coordination, and improved travel times.

We believe the phases and analysis in this report will inspire a thoughtful discussion about the future of RMTD bus service, ultimately leading to improved service for our customers.

[1] Throughout this report, cost figures are calculated using a fully burdened rate of $156.91 per vehicle hour, which RMTD calculated and used in its 2022 fiscal year budget.

2. Review of Existing Conditions and Market Analysis

The Existing Conditions Assessment focused on markets for public transit services (Market Analysis) and quantitative and subjective evaluations of existing services (Service Evaluation). These findings were used to identify opportunities to enhance the RMTD network and inform the final two stages of the project: Network Alternatives Analysis and Implementation Planning. The Existing Conditions Assessment also documented public participation and engagement efforts that occurred from November 2018 to August 2019: a public survey open to anyone, a rider survey, two community forums, three rider forums, and stakeholder and employee interviews.

The following section summarizes RMTD's Market Analysis and Service Evaluation findings. The complete Existing Conditions Assessment can be referenced in the Appendix.

Market Analysis

Population Demographics

Central to the evaluation of transit coverage is an understanding of the service area. The RMTD service area originates within Winnebago County and extends into Boone County to the east, effectively providing service to portions of the bi-county Rockford Metropolitan Statistical Area (MSA). The 2020 population of the MSA is 338,798, down from 349,431 in 2010, and covers 807 square miles.

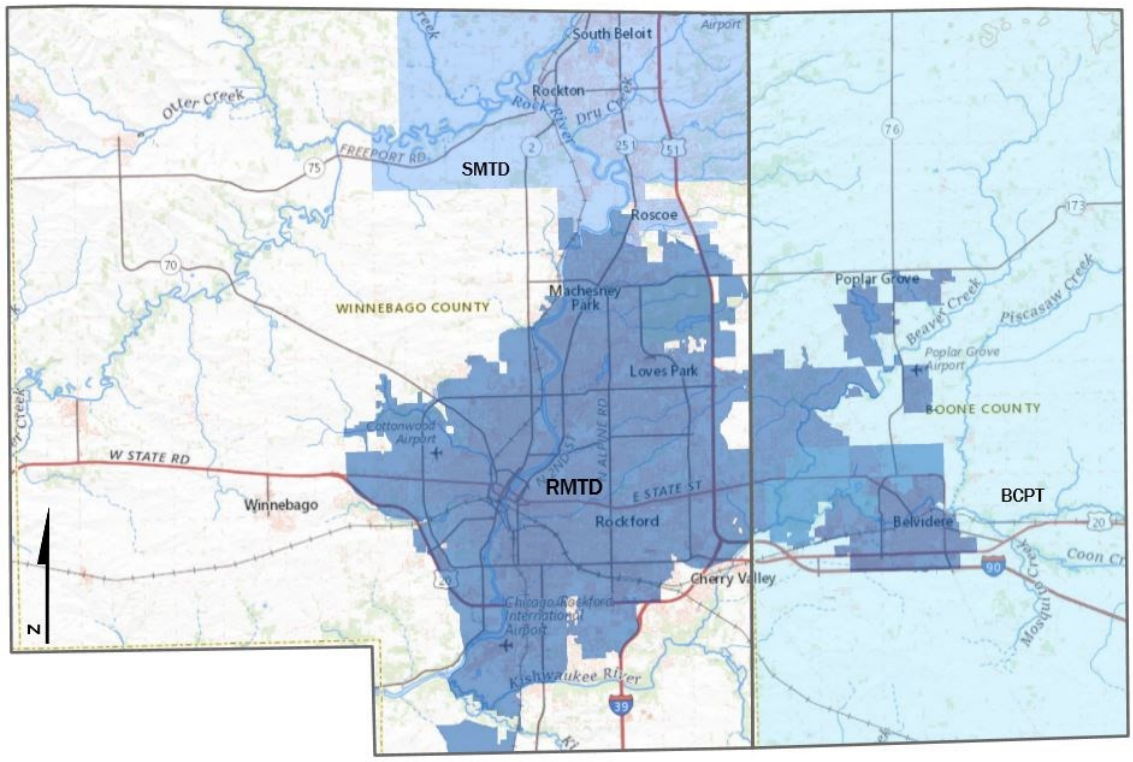

Figure 1 – Transit Agency Service Area Boundaries

Rockford, the central city of the Rockford Urbanized Area, has a 2020 population of 148,655, and is the largest city in Illinois outside of the Chicagoland region. Rockford includes dense population and employment centers, with smaller concentrations in nearby Belvidere and the suburban municipalities of Loves Park, Machesney Park, and Roscoe.

The highest population densities in RMTD's service area are in traditional neighborhoods located immediately northwest and southeast of Downtown Rockford, with smaller pockets situated along the Rock River and Belvidere. Relatively dense population extends as far southeast as Alpine and Harrison. Communities further from downtown have a more suburban development pattern with lower population densities, but some pockets of density can be found in urban neighborhoods around Washington Elementary School, in parts of Loves Park and Machesney Park, and at various apartment complexes.

A key element to identifying areas of transit demand is the distribution of population groups with a high propensity to ride; the Existing Conditions Assessment documented the distributions of these groups. It also used the CDC's Social Vulnerability Index (SVI) to understand potential reliance on public transit. Social vulnerability is higher in the southern and western parts of Rockford, as well as Belvidere.

Employment Patterns

The bi-county Rockford Metropolitan Statistical Area hosts an estimated 141,325 jobs.[2] Rockford maintains a large share of regional employment, estimated at 82,666 jobs. Dense employment centers are located throughout Rockford, including downtown, to the south surrounding the Chicago Rockford International Airport, throughout the industrial and business parks surrounding South Alpine Road and Harrison Avenue, and the East State commercial corridor. Rockford also hosts all four of the region's major hospitals. Other dense employment centers can be found in Belvidere, Loves Park, Machesney Park, and Cherry Valley.

Rockford maintains the highest percent of individuals who make their work commute by public transit at 2.3% of all work trips. This number drops significantly for the remaining municipalities within the service area: 0.9% for Loves Park, 0.2% for Machesney Park, and 0.1% for Belvidere. Low-income earners ($1,250 or less per month) often have a higher propensity to use public transit. Within the RMTD service area, low-income job density is concentrated in central Rockford.

Transit Demand Evaluation

The Existing Conditions Assessment evaluated transit demand in multiple ways to highlight key service areas and inform the balance between ridership-focused and coverage-focused services. First, it identified transit supportive areas using a methodology from *TCRP Report 165*. Most of the transit supportive urban core[3] of Rockford is within a quarter mile of fixed-route bus service. There were a few areas considered transit supportive that were beyond the reach of the existing bus network. These include the southern edge of Rockford, including the Lowes Distribution Center, the area surrounding the Pine Manor Neighborhood on Sandy Hollow Road, the Great Oaks and Beacon Hill Apartment complexes on Linden Road, the South Alpine Road and Sandy Hollow Road

[2] 2017 Longitudinal Employer-Household Dynamics (LEHD).
[3] This is defined as Census blocks with at least 7.26 people or four jobs per gross acre.

industrial parks, and the neighborhood between Highcrest and Brendenwood roads in Central Rockford.

Regional gaps include the industrial and residential neighborhoods in northwest Loves Park, the industrial park north of IL 173 in Machesney Park, and multiple areas around southern and western Belvidere. However, gaps outside of the City of Rockford can be harder to address, as the current organization structure requires RMTD to operate through service agreements with adjacent governments. And although transit supportive "islands" without fixed-route service exist within Northern Boone County and Roscoe, these areas do have access to demand response public transit.

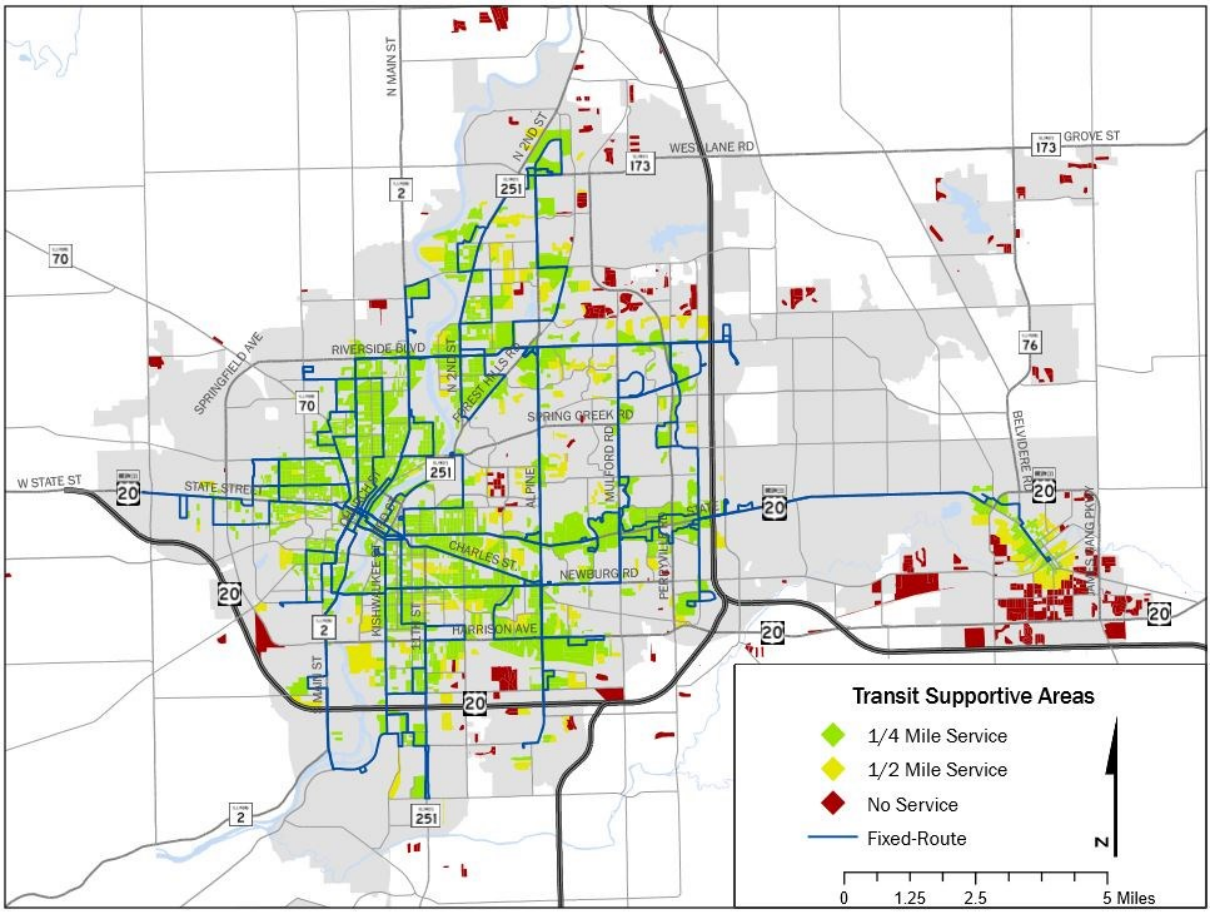

Figure 2 - Transit Supportive Areas within RMTD's Service Area

Overall, this analysis found:

- The existing weekday system generally provides access to core population and employment centers throughout the service area.
- Two specific areas were identified as having suitable density for hourly fixed-route service and high-demand but did not have available services nearby: Pine Manor on Sandy Hollow Road and residential neighborhoods throughout central and western Belvidere.
- Two residential areas meet the supportive criteria and have medium-level demand, but lack nearby service: the Great Oaks and Beacon Hill Apartment complexes on Linden Road and the neighborhood between Highcrest and Brendenwood roads in Central Rockford.
- Multiple large employers located on the fringes of the urban core meet the supportive criteria but are often categorized as low-demand.

A separate analysis compared the supply of transit service with the demand for transit. Comparing the demand for public transit against the supply of public transit can help show how well transit system is serving various markets. Transit demand was estimated using an index that combined the geographic dispersion of nine propensity-based criteria: total population, low-income employment, residents below the poverty line, people with a disability, racial minorities, Hispanic or Latino ethnicity, young adults (15-24), seniors (65+), and zero-vehicle households. Clusters of high-demand locations include central, northwest and southwest Rockford, Alpine Road between Broadway Avenue and Harrison Avenue, portions along East State Street, and central and western Belvidere.

The Existing Conditions Assessment compared demand for transit to the supply of RMTD bus service by calculating the weekly service hours of each route and distributing this service over a ¼ mile service area. Transit supply is most concentrated in downtown Rockford, along the State Street corridor to the East Side Transfer Center, and in spots where multiple routes overlap or intersect. Areas where this **supply exceeded demand** were most evident at the east end of State Street, including the East Side Transfer Center. This is partly related to multiple routes intersecting or overlapping. Service exceeds demand near Mercyhealth Riverside, though the demand data may not be recent enough to reflect the area's recent developments. Areas that show **demand for greater service** are mostly urban neighborhoods in central Rockford, particularly to the southeast. Belvidere also stands out as an area with demand for greater service.

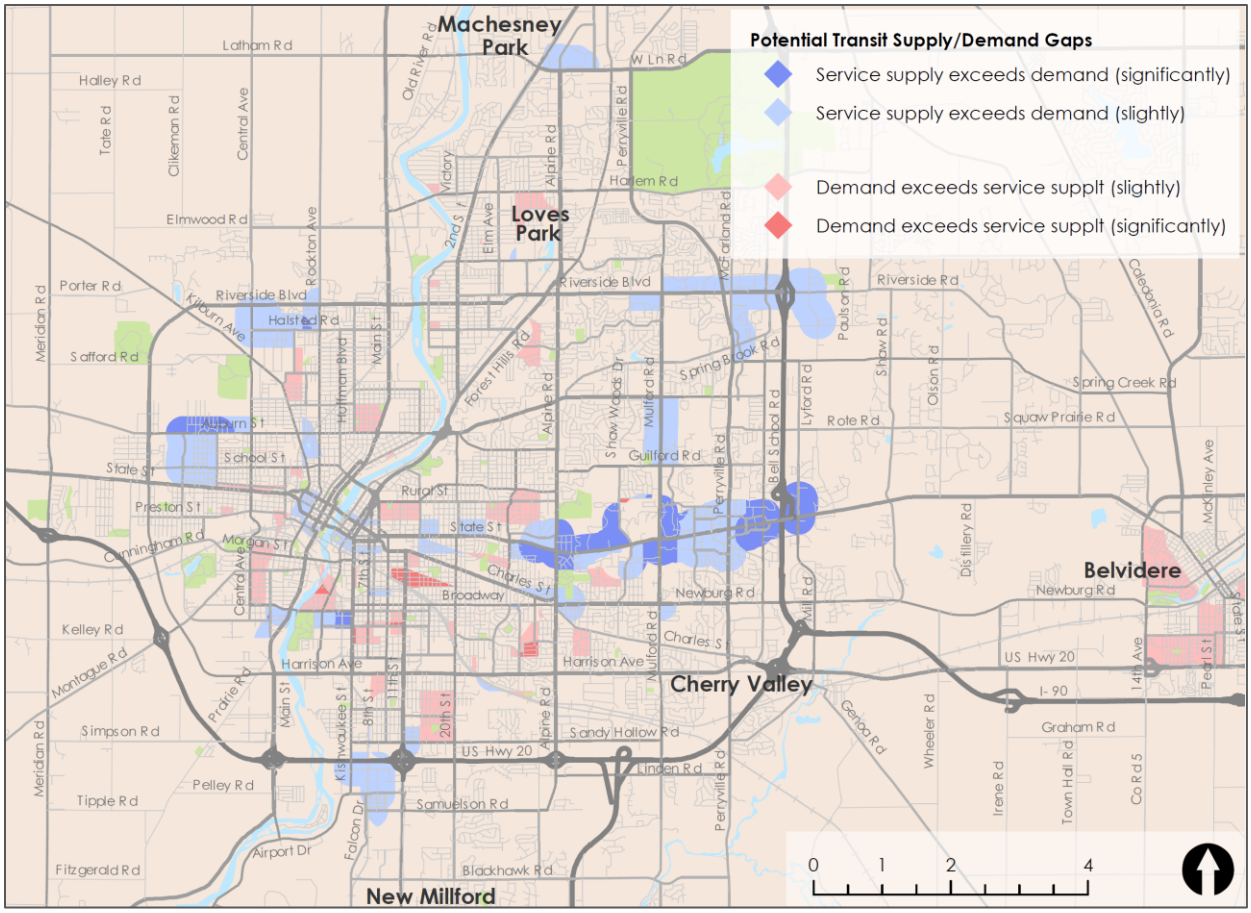

Figure 3 – Map of potential transit supply/demand gaps

Service Evaluation

The Existing Conditions Assessment evaluated RMTD operations using data primarily from 2019, representing typical operations before the disruptions of COVID-19. RMTD provides fixed-route and complimentary paratransit services within Rockford, Loves Park, Machesney Park, and Belvidere, and contracts the Boone County Council on Aging (BCCA) to provide demand-response service to the urbanized portions of Boone County. In total, RMTD's service area covers 155 square miles and approximately 227,000 of the region's residents.

As of October 2021, RMTD operated 19 daily fixed-routes (Monday-Saturday), six weeknight routes, and five Sunday routes. On weekdays, most routes operated hourly service from 5am or 6am until 6pm. Two routes operated 30-minute service (Routes 2 and 11), and three routes operate less frequently (Routes 3 and 6 on the west side of Rockford, and Route 24 serving Belvedere). On weekday evenings from 6-11pm, a different network of evening routes took over operations. A modified shuttle trip ran at 11:15pm to bring the last passengers home. Saturday service matched the weekday daytime service, but with a reduced service span. Sunday service mostly matched the weekday evening service, though with a few changes and reductions. No service operates on Saturday and Sunday nights.

Most of RMTD's bus routes are provided on a hub-and-spoke radial network originating from the Downtown Transfer Center in Rockford. There are also several routes connecting at the East Side Transfer Center, though this is a lower-demand destination. Route 11 East State plays a key role by connecting these two transit centers. The east side of Rockford also includes some routes that play a limited cross-town function.

It should be noted that RMTD's fare system has special rules that apply to Route 19 Cherryvale. Riders on this route must pay an additional zone fare.

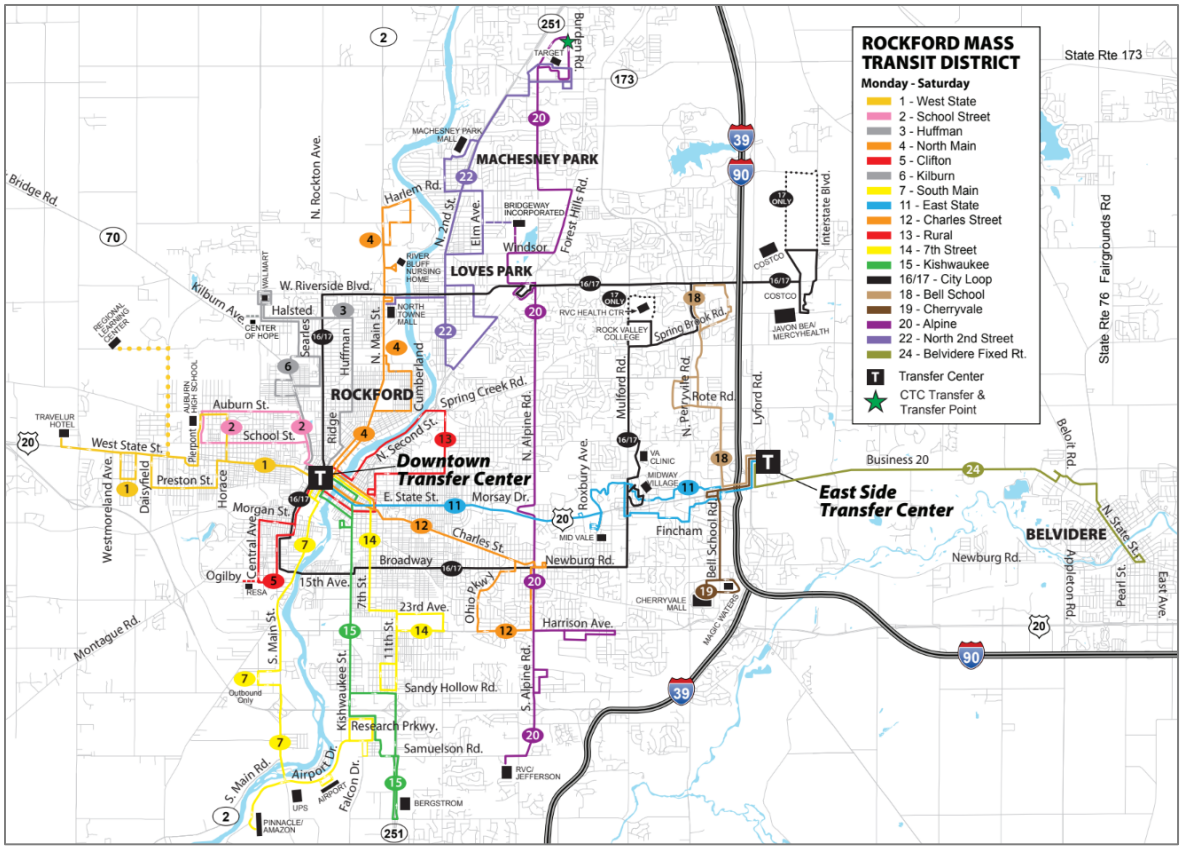

Figure 4 – Bus network for weekdays and Saturdays

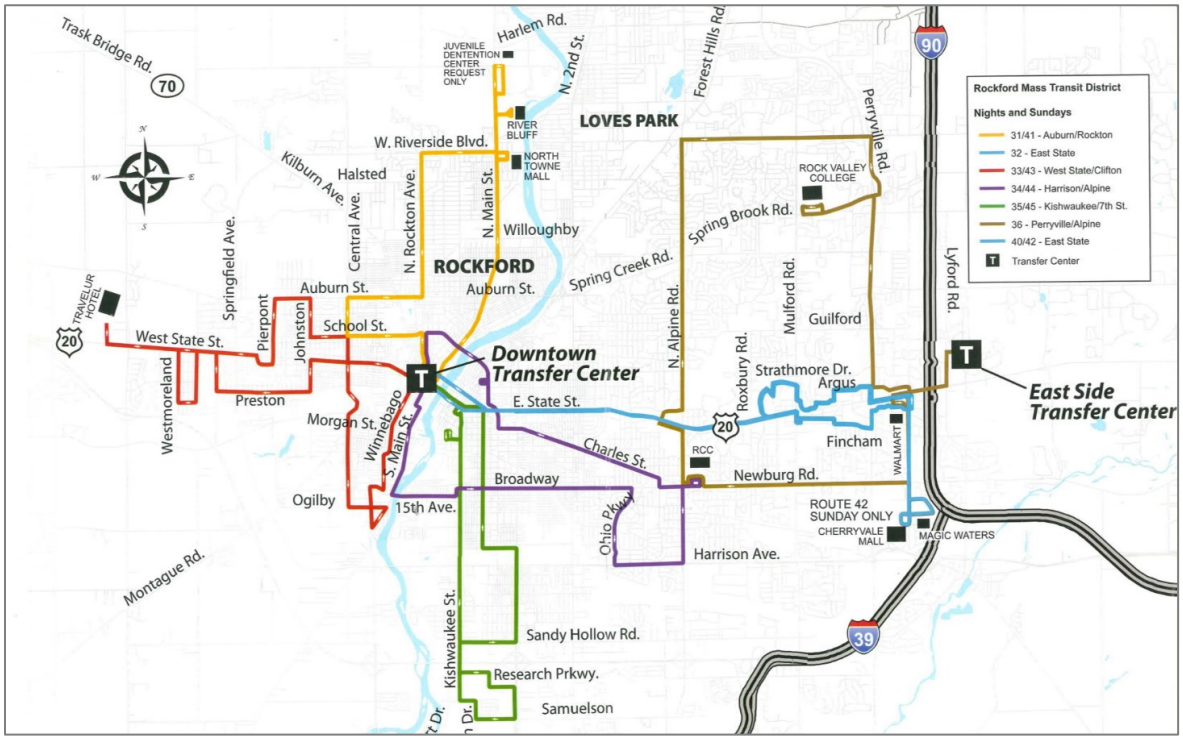

Figure 5 – Bus network for weekday nights and Sundays

RMTD provides complementary origin-destination paratransit service up to three-quarters of a mile from their fixed-route system, and extends this service area to the incorporated limits of Rockford, Machesney Park, and Loves Park. Paratransit services operate during the same span as RMTD's fixed-route system. Although weeknight fixed-route service is only available in Rockford, origin-destination service for paratransit riders is extended to 10:00pm for Loves Park and Machesney Park.

Trend Analysis

Trends in key RMTD performance indicators between fiscal years 2009 and 2019 are shown in Figure 6. After dipping in 2010, ridership gradually increased to a peak in 2013, and since then gradually declined by 2019 to 86% of 2009 levels. This trend aligns closely with the nationwide trend for bus ridership, shown in blue. It also shows a potential relationship with gas prices, as ridership growth followed an increase in gas prices in 2010-11. The Great Recession also had a significant external impact to RMTD ridership; it negatively affected service demand from the late 2000's, and in Illinois, well into the 2010's. Regional population and employment are shown for reference; these values have generally remained stable. Though not displayed, RMTD bus ridership has dropped substantially in 2020-21 due to the COVID-19 pandemic.

Changes by RMTD also have played a role in ridership trends, though overall service levels have been relatively stable over the last decade, measured in terms of hours, mileage, and operating expenses. Ridership losses appear to be driven by declining demand in the service area, which leads to reduced efficiency in terms of passenger trips per revenue hour and increased expense per passenger trip.

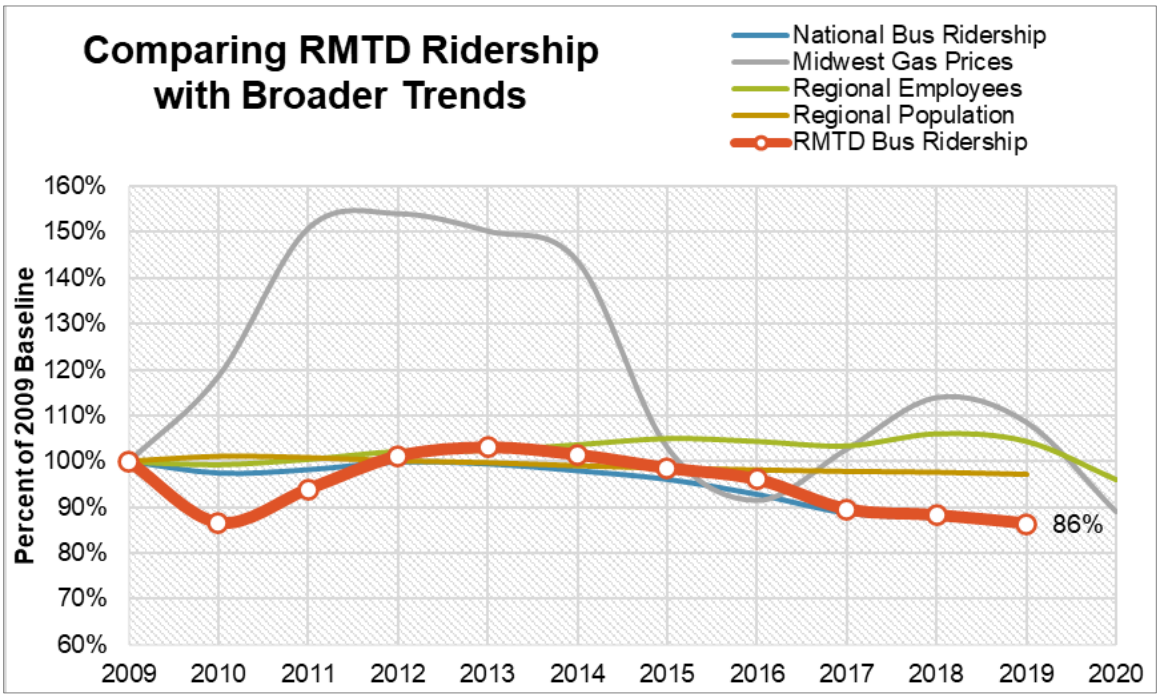

Figure 6 – Comparison of RMTD Bus Ridership trends against several external trends. Sources: APTA, US Bureau of Labor Statistics, US Energy Information Administration, US Census Bureau

Peer Agency Comparison

Although few transit agencies operate and function identically, comparisons between groups of peer service providers can help facilitate best practices between those service elements that similarly function. The Existing Conditions Assessment grouped peer agencies into three categories: System peers, Illinois peers, and Chicagoland agencies. Compared to the peer group average, RMTD:

- Is similar in terms of urbanized area population, passenger trips, revenue miles, and fleet size.
- Has a significantly larger service area, which makes its mission more challenging.
- Has a higher spare ratio (percentage of fleet that is unused during peak operations).
- Operates substantially less service per capita and experiences somewhat more frequent vehicle failures and incidents.
- Pays a relatively high operating cost per revenue hour, and as a result has a relatively high subsidy per passenger.
- Operates about 20% less total hours of service.
- Has higher hourly maintenance costs and administrative costs.
- Receives less federal funding, less directly generated funding, and more state funding.

Ridership Patterns

The Existing Conditions Assessment analyzed customer boardings (getting on the bus) and alightings (getting off the bus) from May and June 2019 to measure total daily activity at each bus stop throughout the RMTD service area. This data highlighted the following patterns:[4]

- Some corridors in the northern portion of the service area serve destinations with strong ridership, while other corridors in this area have very little ridership.
    - The Rockton Ave corridor (Route 16/17) and the Main Street corridor (Route 4) both show strong ridership. The Walmart stores at Riverside/Central and at Riverside/Alpine also generate significant ridership.
    - Alpine south of Riverside, Second north of Riverside, and Riverside east of Alpine have very little ridership. These corridors were all rated as having poor pedestrian network suitability.
- The portion of the service area near downtown, including the near southeast area, has relatively high ridership.
    - Ridership is strongest in downtown Rockford, including the Downtown Transfer Center where most routes connect, and the SwedishAmerican Hospital.
    - Strong corridors include State Street (Routes 1 and 11), Auburn Street (Route 2), Charles Street (Route 12), Kishwaukee Street (Route 15), and 11th Street (Route 14).
    - Areas with lighter ridership include Main Street south of Broadway and several route deviations.
    - Farther to the south is Rockford International Airport. While this destination is important to the community, it is in a remote location and has relatively modest average daily ridership of 27 boardings.
- The eastern portion of the service area sees most of its ridership concentrated at key nodes: commercial destinations along State Street, the East Side Transfer Center, CherryVale Mall, and Mercyhealth Urgent Care.
    - Land use in this area is not particularly walkable, which is a barrier to increasing ridership outside of major destinations with front door service.

[4] See the Appendix for ridership maps.

- Ridership in Belvidere (Route 24) is surprisingly low given the market analysis suggesting significant demand potential; the limited schedule on that route may be a barrier.
- Route 16/17 was only extended east of I-90 after this data was collected, so ridership there is unknown.

Service Coverage

The service coverage analysis of RMTD's routes is a way to determine the access that riders have to jobs and other opportunities. This coverage is assessed by creating a buffer within ¼ miles of these routes. Weekday and weeknight service provides access to 93,550 jobs (62% of regional jobs) and 138,638 residents (41% of regional residents). Saturday service provides access to 93,324 jobs (62% of regional jobs) and 137,777 residents (41% of regional residents). Sunday service provides access to 54,874 jobs (36% of regional jobs) and 75,376 residents (22% of regional residents).

Key Performance Indicators

Transit agencies use key performance indicators (KPIs) for reporting and regulatory requirements, to identify areas for service improvement, and to communicate performance to stakeholders and the public.[5] KPIs should be tied to an agency's goals and objectives, as well as reflect the resources available to collect and analyze needed data. The Existing Conditions Assessment reviewed KPIs for RMTD by route, specifically ridership, productivity, and cost per passenger.

- Route 11 and Route 16/17 stand out as the most heavily used routes, in terms of annual and average daily ridership. Weekday/evening routes have a wide range of activity, from Route 11 (over 1,000 daily riders) to Routes 18 and 24 (less than 20 daily riders). Saturday and Sunday routes have slightly less average daily ridership compared to weekday services.
- Productivity (passengers per hour) is more uniform across all days, with the reduced-service Sunday routes being the most productive, on average. Route 2 and 4 on weekdays and Route 31/41 on Sundays stand out as having over 25 passengers per hour.
- The average cost per passenger across all routes and days is approximately $14 per passenger, with a low of $5 (Route 4 on weekdays) and a high of $98 (Route 18 on Saturdays).

Table 2 – Summary of KPIs by Route Category

	Avg Daily Ridership			Productivity			Cost per Passenger		
Routes	***Avg***	***Min***	***Max***	***Avg***	***Min***	***Max***	***Avg***	***Min***	***Max***
Weekday/Evening	215	16	1,003	15.4	3.1	29.6	$11.32	$4.46	$42.72
Saturday	169	8	670	12.0	1.4	21.4	$18.11	$6.19	$97.58
Sunday	173	87	348	17.0	10.8	26.0	$8.73	$5.09	$12.23

[5] TCRP Report 88: A Guidebook for Developing a Transit Performance-Measurement System. Transportation Research Board. 2003. http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_report_88/guidebook.pdf

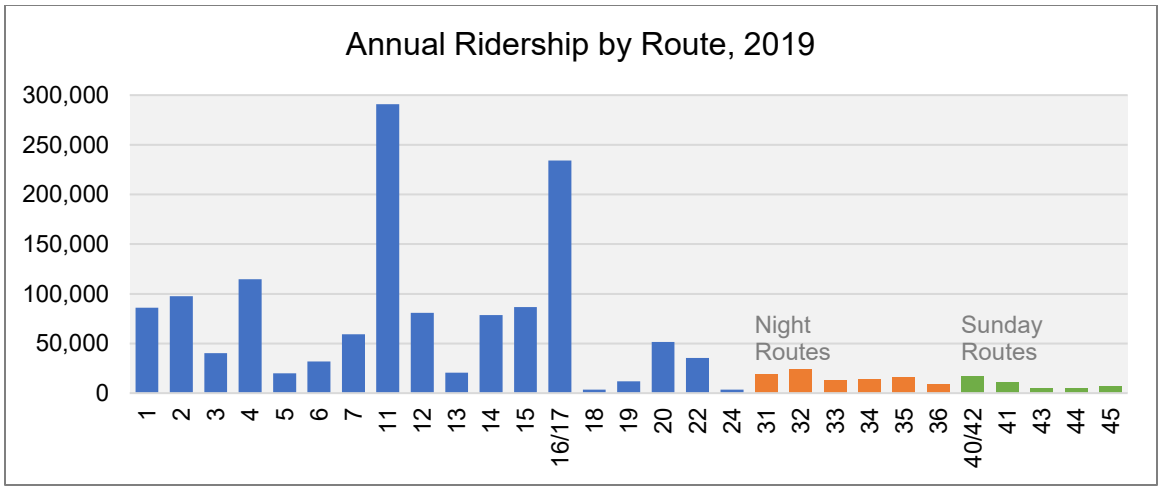

Figure 7 – Annual Ridership by Route

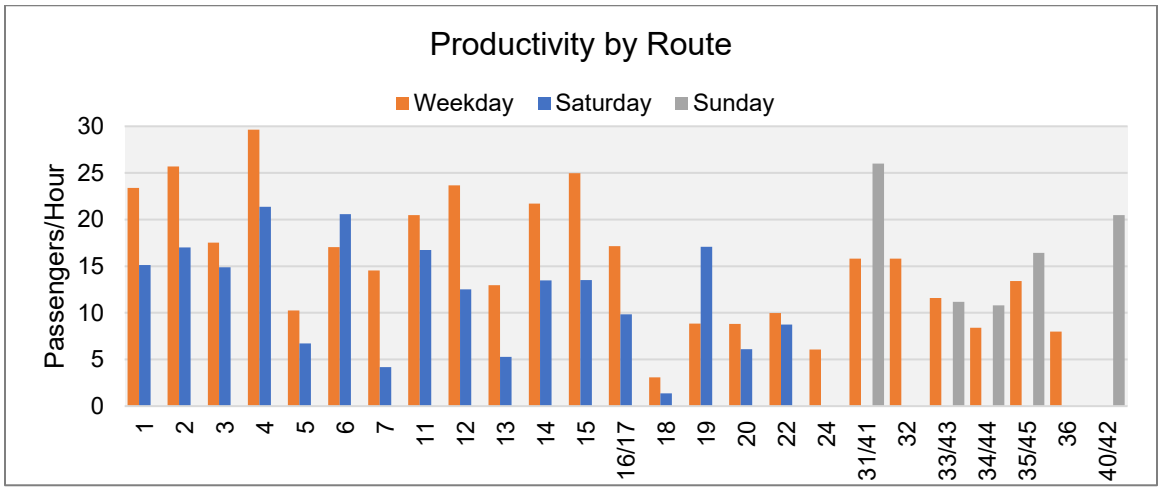

Figure 8 – Productivity by Route

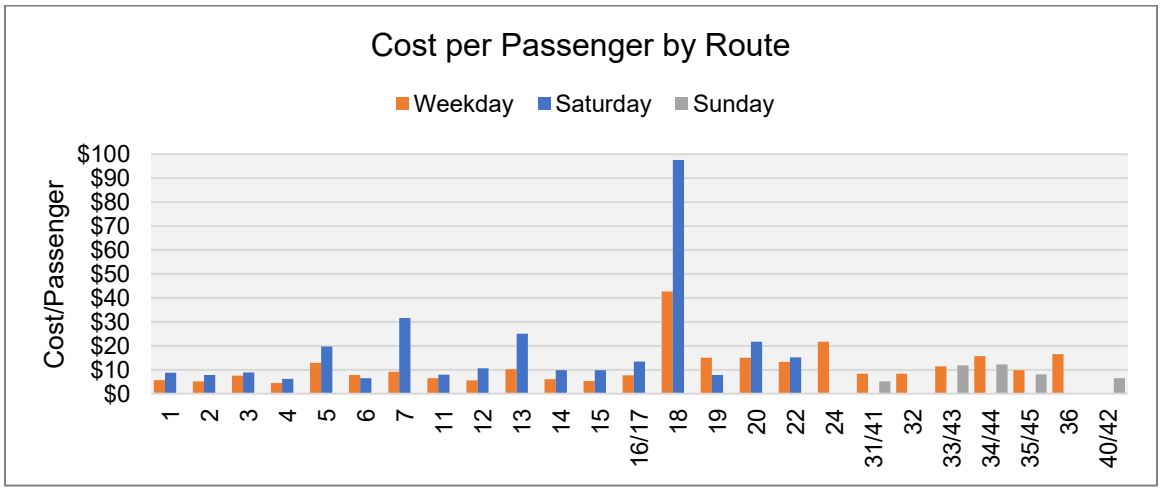

Figure 9 – Cost per Passenger by Route

These results help us classify RMTD's weekday routes according to certain performance characteristics:

- **Frequent Routes.** RMTD currently has two routes that operate 30 minute service and have strong performance to sustain that frequency:
    - #2 School Street
    - #11 East State

- **Potential Frequent Routes**. RMTD has several routes with relatively high productivity (above 23 passengers per hour on weekdays) and low cost per passenger. The level of demand along these routes should be strong enough to support increased frequency:
    - #1 West State
    - #4 North Main
    - #12 Charles
    - #15 Kishwaukee
    - The Broadway segment of #16 & #17 City Loop
    - The Rockton segment of Routes #16 & #17 City Loop
      Note: Routes 16/17 are large routes serving areas with varying levels of demand, and a review of stop-level ridership indicates that only the Broadway and Rockton segments have ample demand to support increased frequency.

- **Special Routes.** A number of RMTD routes serve special markets with infrequent service (less frequent than hourly) and/or low productivity (less than 14 passengers per hour on weekdays). These routes may provide valuable community coverage, but they would not be prioritized for improvements aside from potential restructuring:
    - #3 Huffman
    - #6 Kilburn
    - #5 Clifton
    - #13 Rural
    - #18 Bell School
    - #19 Cherryvale
    - #20 Alpine Crosstown
    - #22 North Second Street
    - #24 Belvidere

- **Regular Routes.** Routes that operate at least hourly service and have higher levels of productivity than special routes would be considered regular routes:
    - #7 South Main
    - #14 7th Street
    - #16 & #17 City Loop

3. 2021-2022 Schedule Improvements (Phase 1 & Phase 2)

In response to customer feedback and as part of its service development strategy, RMTD has already implemented some of the improvements proposed by the Comprehensive Mobility Analysis and is currently working on the implementation of additional changes. The first set of improvements, named "Phase 1," was implemented and has been in effect since November 29, 2021. The implementation of the second set of improvements – "Phase 2" – is planned for the second half of 2022. The schedule improvements are described in the following paragraphs and summarized in Table 3.

Phase 1 - Fall 2021 Schedule Improvements

Part of the Comprehensive Mobility Analysis, the first set of improvements was implemented in November 2021. The span of service on ten of the network's stronger routes was extended. These included all weekday routes classified as "regular," "frequent," or "potentially frequent." (The "special" routes serving lower-demand markets or operating limited service were excluded.) Additionally, evening service was extended by one hour at the end of the service day on all night routes:

- The service span of the following ten routes was extended to start an hour earlier, at 4:15 a.m.:
    - #1 West State
    - #2 School Street[6]
    - #4 North Main
    - #7 South Main
    - #11 East State
    - #12 Charles Street
    - #14 7th Street
    - #15 Kishwaukee
    - #16 & #17 City Loops[7]
- One trip was also added to each of the night routes (#31, #32, #33, #34, #35 and #36), so that their final trips start at 11:15 p.m. instead of 10:15 p.m.; the three late night on-demand shuttle trips were then shifted to start service at 12:15 a.m. instead of 11:15 p.m. previously.

[6] Route #2 School Street runs a 30-minute frequency, thus service starts at 4:45 a.m.
[7] Between Alpine Rd. and Downtown Transfer Center only.

Phase 2 – 2022 Planned Schedule Improvements

Additional service span improvements are planned to take place later in 2022, depending on pandemic conditions. Supplementing the changes implemented in November 2021 under Phase 1, this set of improvements will focus on weekend service:

- On Saturdays, service span on the ten stronger routes classified as "regular," "frequent," or "potentially frequent" will be extended two hours earlier to start at 4:15 a.m. Additionally, the six existing weekday evening routes will be expanded to also operate on Saturday evenings; thus, Saturday schedules will better replicate the extended weekday service implemented in Phase 1.
- On Sundays, the span of service on all five Sunday routes will be extended by one hour at the beginning of the day and by three hours at the end of the day. That is, the first trip on all routes will depart at 8:15 a.m.,[8] and the last trips will depart at 7:15 p.m.

RMTD plans to allow at least nine to twelve months after these changes for monitoring and evaluation before advancing to future phases of improvements.

[8] The first trip on Route #42 East State departs at 8:15 a.m., while service on all the other Sunday routes starts at 9:15 a.m.

Table 3 – Summary of Service Improvements in Phases 1 & 2
Note that Phase 2 improvements will be in addition to the Phase 1 improvements

Route	Phase 1 Improvements	Phase 2 Improvements
#1 West State	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#2 School Street	Extend *Weekday* service to start at 4:45 a.m.	Extend *Saturday* service to start at 4:45 a.m.
#3 Huffman	No significant change	No significant change
#4 North Main	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#5 Clifton	No significant change	No significant change
#6 Kilburn	No significant change	No significant change
#7 South Main	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#11 East State	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#12 Charles	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#13 Rural	No significant change	No significant change
#14 7th Street	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#15 Kishwaukee	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#16 & #17 City Loop	Extend *Weekday* service to start at 4:15 a.m.	Extend *Saturday* service to start at 4:15 a.m.
#18 Bell School	No significant change	No significant change
#19 Cherryvale	No significant change	No significant change
#20 Alpine Crosstown	No significant change	No significant change
#22 North Second Street	No significant change	No significant change
#24 Belvidere	No significant change	No significant change
#32 East State	Extend *Weekday late night* service: last trip to depart at 11:15 p.m.; on-demand shuttles to start at 12:15 a.m.	Extend *Sunday* service to start at 8:15 a.m. and end at approx. 8:15 p.m.
#36 Perryville/Alpine	Extend *Weekday late night* service: last trip to depart at 11:15 p.m.; on-demand shuttles to start at 12:15 a.m.	Extend *Sunday* service to start at 8:15 a.m. and end at approx. 8:15 p.m.
#31 & #41 Auburn/Rockton	Extend *Weekday late night* service: last trip to depart at 11:15 p.m.; on-demand shuttles to start at 12:15 a.m.	Add *Saturday night* service with span and frequency like weekday service.
#33 & #43 West State/Clifton	Extend *Weekday late night* service: last trip to depart at 11:15 p.m.; on-demand shuttles to start at 12:15 a.m.	Add *Saturday night* service with span and frequency like weekday service.
#34 & #44 Harrison/Alpine	Extend *Weekday late night* service: last trip to depart at 11:15 p.m.; on-demand shuttles to start at 12:15 a.m.	Extend *Sunday* service to start at 8:15 a.m. and end at approx. 8:15 p.m.
#35 & #45 Kishwaukee/7th Street	Extend *Weekday late night* service: last trip to depart at 11:15 p.m.; on-demand shuttles to start at 12:15 a.m.	Extend *Sunday* service to start at 8:15 a.m. and end at approx. 8:15 p.m.
#40 & #42 East State Street	No significant change	Extend *Sunday* service to start at 8:15 a.m. and end at approx. 8:15 p.m.

4. Future Service Improvement Phases

A core purpose of this plan is to consider potential future improvements to RMTD service. This section evaluates two phases of service improvements. Many additional service concepts were considered as part of our planning process, but these phases were identified as most responsive to current needs and resource constraints:

- "Phase 3," to be implemented next, would add weekday frequency on several high-demand "potentially frequent" routes while maintaining the overall route network.
- "Phase 4" would also restructure the route network to address structural issues.

In principle, the combined Phase 3 and Phase 4 improvements could be implemented at once, but we separate them into two phases to keep the changes manageable and to prioritize building the transit market through frequency.

To determine the additional resources needed for the implementation of phases 3 and 4, detailed schedule run-cutting was completed for each. Required operations budgets, workforce needs, and bus fleet sizes were all identified based on the run-cutting results and are summarized in the following sections. For reference, the indicators used in these sections are defined in a call-out box below. The following analyses will compare these figures with those of the "baseline" schedules used in October 2021. Additionally, the run-cutting summary spreadsheets have been shared with RMTD for internal usage.

Resource Need Indicators

- **Operator Time**: time during which an operator operates the bus, including revenue time/ open-door service and deadheads or layover required as a result of such service.
- **Vehicle/Platform Time:** time during which a bus is required to run the scheduled service. This excludes the operators' reporting time at the beginning of their assignment but includes all other elements of the Operator Time.
- **Operations Cost**: platform time multiplied by RMTD's fully loaded operating cost per hour ($156.91).
- **Daily Driver Runs**: number of distinct daily assignments carried out to provide scheduled service, equal to the minimum number of drivers needed to provide the service.
- **Vehicles in Operation**: peak number of buses needed to run the scheduled service.

The RMTD Board has an opportunity to approve a transformational investment in the area's transit service, through the proposed Phase 3 and Phase 4 improvements. These future phases come with different benefits and different resource requirements. Depending the performance of Phase 2 improvements and approval by the Board, customers could see the Phase 3 changes implemented nine to twelve months following the implementation Phase 2.

Phase 3 – Improved frequency on core routes

Phase 3 would add weekday frequency to five of RMTD's highest-demand "potential frequent" routes while maintaining the overall route network. Specifically, frequency would improve on Route 4 North Main, Route 12 Charles, Route 15 Kishwaukee, and the Rockton and Broadway sections of Routes 16/17,[9] such that buses run every 30 minutes during peak periods. These are RMTD's busiest corridors in terms of passengers per hour, and many of them also serve historically disadvantaged communities. Investing in these corridors would help attract and retain customers in the strongest existing markets.

In addition, this phase would change weekday and Saturday schedules so that routes whose final trip currently begins at 5:15pm would have another trip beginning at 6:15pm. The night routes would adjust to begin one hour later to align with the daytime change.

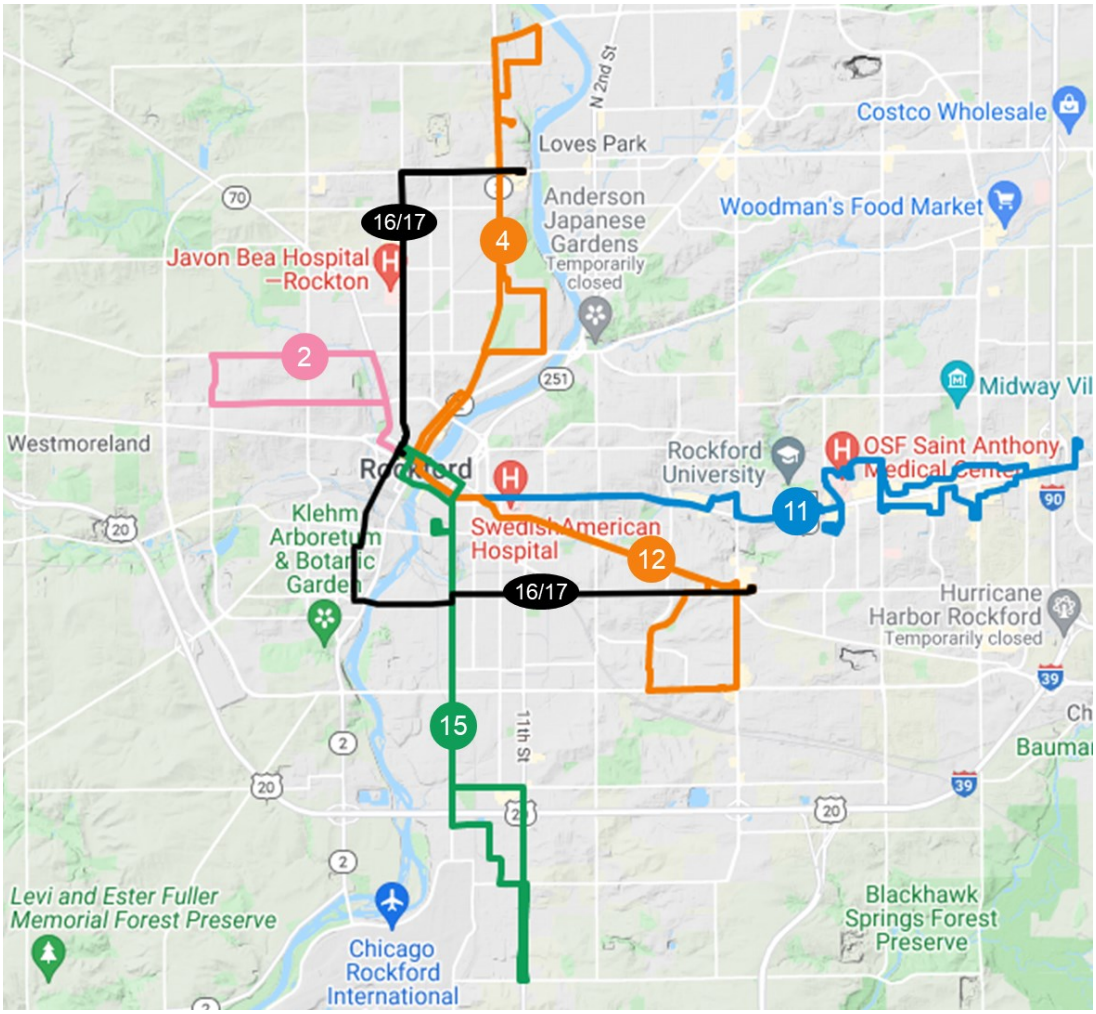

Figure 10 – Routes that would operate weekday peak period service of every 30 minutes under Phase 3. Note that the overall Phase 3 route network operating on weekdays, Saturdays, and Sundays matches current operations.

[9] The frequency on Rockton and Broadway would be created by operating a "short turn" pattern: Rockton buses would turn around at North Towne, while Broadway buses would turn around at Colonial Village.

Resource Needs

Under Phase 3, weekday service would increase to accommodate the frequency improvements on RMTD's core routes. However, weekend day service would remain similar to the service provided under Phase 2 (see above). Systemwide daily operator hours would increase to 380 hours on weekdays but remain at 285 hours on Saturdays and 71 hours on Sundays. Per week, systemwide operator time would grow to 2,225 hours - 23% higher than the baseline October 2021 service - with an estimated weekly operations cost of $349.8k ($17.9m annually). Overall, **Phase 3 increases annual operating costs by $2.1m compared with Phase 2**, or $3.4m compared with the October 2021 baseline. Weekday daily operations would require 51 driver runs and 28 vehicles in operation; Saturday and Sunday service levels would be lower and thus require fewer driver runs and vehicles in operation. Accounting for time off and extra-board assignments, a total of 71 drivers are needed (55 full-time; 16 part time). Table 4 shows the daily and weekly resources needed under Phase 3.

Table 4 - Resources needed under Phase 3
Note that costs are shown in 2022 dollars.

	Operator Time (Hours)	Vehicle/ Platform Time (Hours)	Est. Daily Operation Cost[10]	Daily Driver Runs	Vehicles in Operation
Weekday	380	376	$58,935	51	28
Saturday	285	281	$44,134	40	27
Sunday	71	70	$11,023	9	9
Weekly Total	2,255	2,230	$349,833	-	-
Weekly Max	-		-	51	28

Strengths and weaknesses per evaluation priorities

Increasing frequency to every 30 minutes on the five high-demand "potential frequent" routes would have a positive impact on the rider experience, reducing wait times and thus overall travel times. This change would not impact service span, system coverage, markets served, or route directness. Phase 3 requires additional resources relative to baseline October 2021 conditions. It does not require as many resources as Phase 4 (discussed in the next sections).

[10] Based on vehicle/platform time.

Phase 4 – Network restructuring

"Phase 4" would restructure the RMTD route network in addition to adding frequency. It would also maintain and build upon Phase 3's increased weekday frequency (every 30 minutes during peak periods) on "potential frequent" routes. The 30 minute service would operate on Route 4 North Main, Route 12 Charles, Route 15 Kishwaukee, a new Rockton route, a new Broadway route, and Route 1 West State (added due to scheduling convenience).

The proposed restructuring would modify the route network to address structural issues identified in the Existing Conditions Assessment. These changes would improve access to key destinations such as the West Riverside Walmart, the RFD Airport area, and downtown Rockford. Changes would also seek to improve the customer experience by streamlining indirect routing, avoiding headways longer than an hour, and making the weekday evening and Sunday networks more consistent with the regular weekday network. The network modifications focus on solutions for areas where existing ridership is relatively low, particularly the "Special" routes, though changes would occur throughout the network. While this phase involves a more significant change for customers, it positions RMTD to modernize some historical route structures.

Table 5 describes how existing network issues drive the specific service changes included in Phase 4. It is followed by a series of maps that compare the weekday route network before and after the restructuring, with each map focusing the routes in a specific subarea. This material should clarify the justifications for each proposed change and how transit access is being maintained throughout the RMTD service area. There is also a detailed route-by-route description of changes near the end of this report in Table 7. Some of the most significant changes include the creation of new routes serving Rockton, Broadway, East Riverside, and Harrison, as well as a new East Side On-Demand microtransit zone. (A call-out box on Page 29 describes the on-demand microtransit concept further.)

Table 5 – Summary of Phase 4 recommendations and the issues they seek to address

Issues to address through Phase 4 restructuring	Recommendations of Phase 4 restructuring
Route 5 Clifton averages only 67 riders on weekdays and 40 riders on Saturdays. This may be partly because it operates a one-way loop.	Eliminate Route 5 Clifton but maintain coverage by shifting Routes 7 and 16/17/Broadway.
Route 18 Bell School averages only 17 riders on weekdays and 8 riders on Saturdays.	Eliminate Route 18 Bell School and instead serve the area with a new East Side On-Demand microtransit zone.
Route 19 CherryVale averages only 38 riders on weekdays and 51 riders on Saturdays.	Eliminate Route 19 CherryVale and instead serve CherryVale with a new Harrison route that will make connections to/from the RFD Airport area.
Connections to/from the RFD Airport area from the east should be improved.	
Route 13 Rural averages only 78 riders on weekdays and 32 riders on Saturdays. This may be partly because it operates a one-way loop through a low-demand market.	Eliminate Route 13 Rural and instead serve the area using Routes 22, 14, and proposed East Riverside Route. Route 22 should be extended downtown via Rural St.
Route 22 is inconvenient for customers because it does not run downtown; most of its riders make a transfer to/from Route 4.	
The City Loop has strong ridership along Rockton and Broadway, modest ridership along E Riverside, and little ridership elsewhere. Its indirect routing also yields long trip times to some destinations.	Divide the City Loop into three distinct routes serving Rockton, Broadway, and East Riverside. The Rockton route should end at the W Riverside Walmart.
Access to the W Riverside Walmart is limited due to the limited schedules of Routes 3 and 6.	
On weekday evenings and Sundays, a very different bus network is operated than what runs on weekdays. This can lead to customer confusion.	Eliminate all Sunday-only and weekday evening-only routes. Instead, run the following regular routes during those times: Routes 1, 2, 4, 7, 12, 14, 15, new Rockton route, new Broadway route. The new East Riverside route would also run on weekday evenings but not Sundays.
Many routes are slowed down by unnecessary deviations with very low ridership.	Streamline low-demand deviations to provide a more direct ride for most riders on Routes 1, 4, 7, 11, 14, and 15.
Travel demand in the area surrounding RFD Airport is growing, and the bus routes serving the area do not all connect.	Realign Routes 7, 15, and Harrison to better connect at Research Pkwy/Assembly Dr. Route 15 can also be extended to follow recent development patterns.
Routes 3 and 6 operate every 90 minutes, which is inconvenient for customers.	Modify Routes 3 and 6 to run hourly. Route 3 would be extended east to Riverside/Alpine and Route 6 would be adjusted to run via Central.

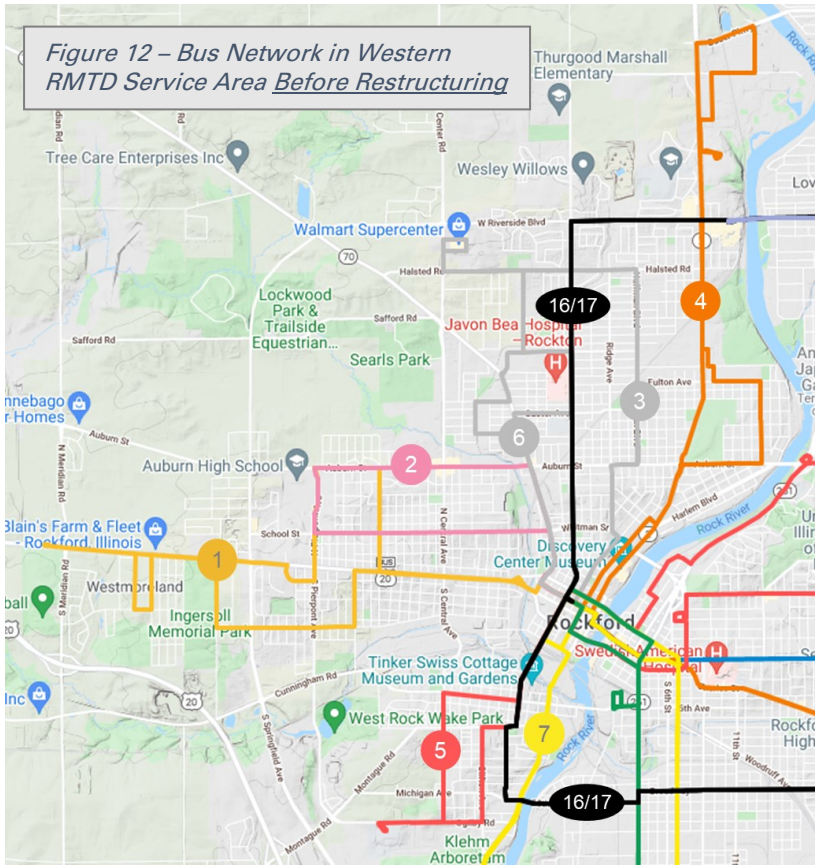
Figure 12 – Bus Network in Western RMTD Service Area Before Restructuring
Thurgood Marshall Elementary
Tree Care Enterprises Inc
Wesley Willows
Walmart Supercenter
W Riverside Blvd
Halsted Rd
Lockwood Park & Trailside Equestrian...
Safford Rd
Searls Park
Javon Bea Hospital – Rockton
Fulton Ave
Ridge Ave
Auburn High School
Auburn St
Blain's Farm & Fleet - Rockford, Illinois
School St
Westmoreland
Ingersoll Memorial Park
Rock River
Harlem Blvd
Tinker Swiss Cottage Museum and Gardens
West Rock Wake Park
Cunningham Rd
Montague Rd
Michigan Ave
Klehm Arboretum
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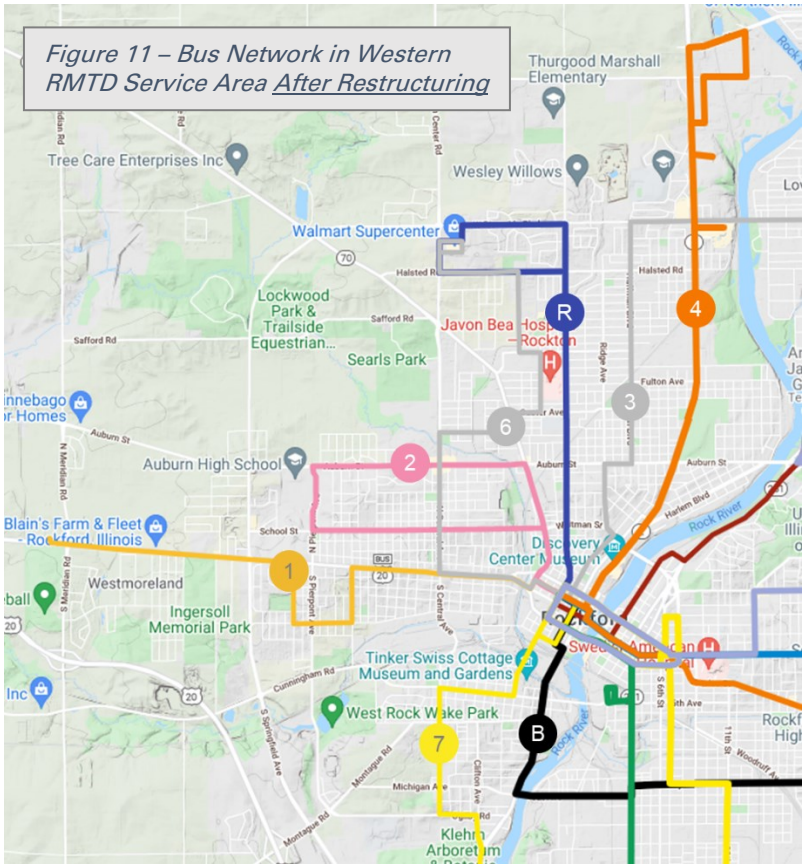
Figure 11 – Bus Network in Western RMTD Service Area After Restructuring
Thurgood Marshall Elementary
Tree Care Enterprises Inc
Wesley Willows
Walmart Supercenter
Halsted Rd
Lockwood Park & Trailside Equestrian...
Safford Rd
Searls Park
Javon Bea Hospital – Rockton
Fulton Ave
Ridge Ave
Auburn High School
Auburn St
Blain's Farm & Fleet - Rockford, Illinois
School St
Westmoreland
Ingersoll Memorial Park
Rock River
Harlem Blvd
Tinker Swiss Cottage Museum and Gardens
West Rock Wake Park
Cunningham Rd
Montague Rd
Michigan Ave
Klehm Arboretum
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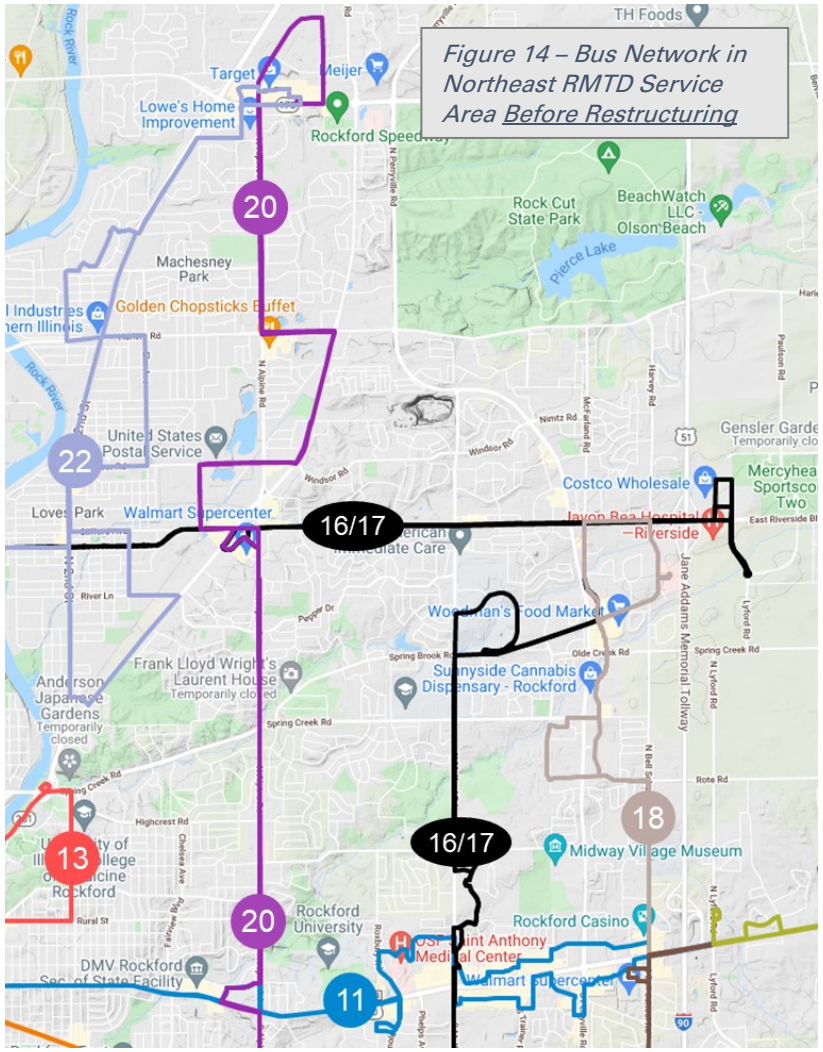

Figure 14 – Bus Network in Northeast RMTD Service Area Before Restructuring

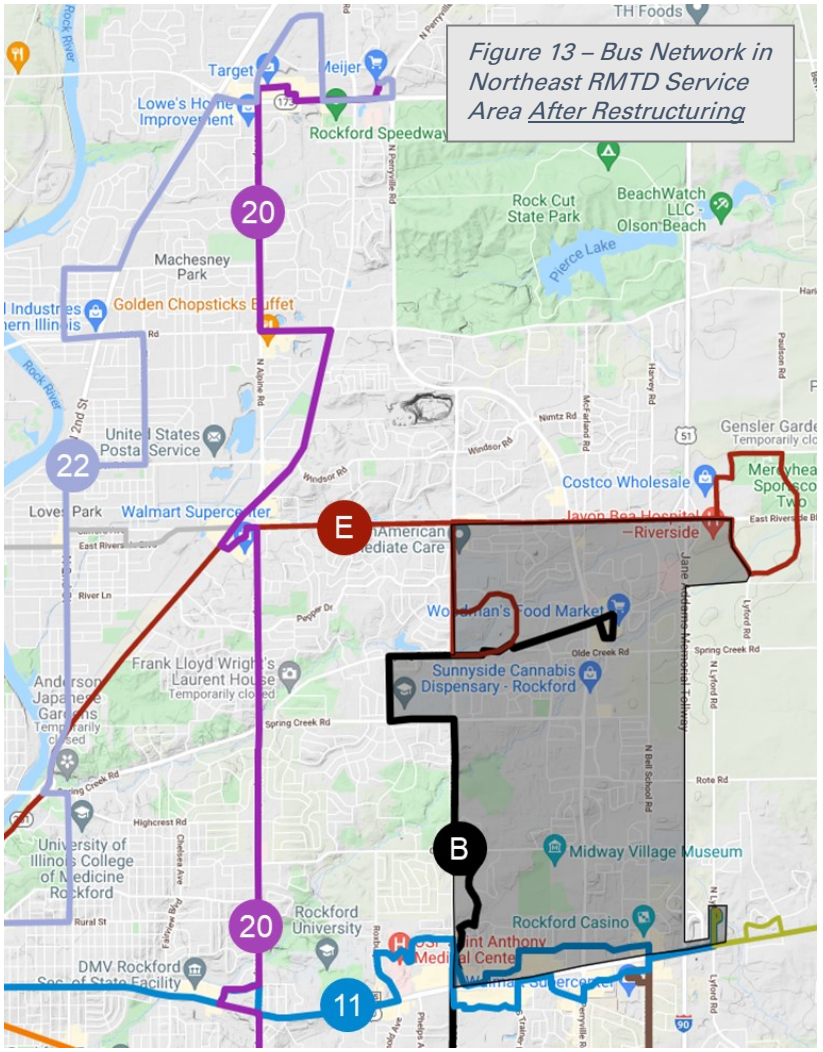

Figure 13 – Bus Network in Northeast RMTD Service Area After Restructuring

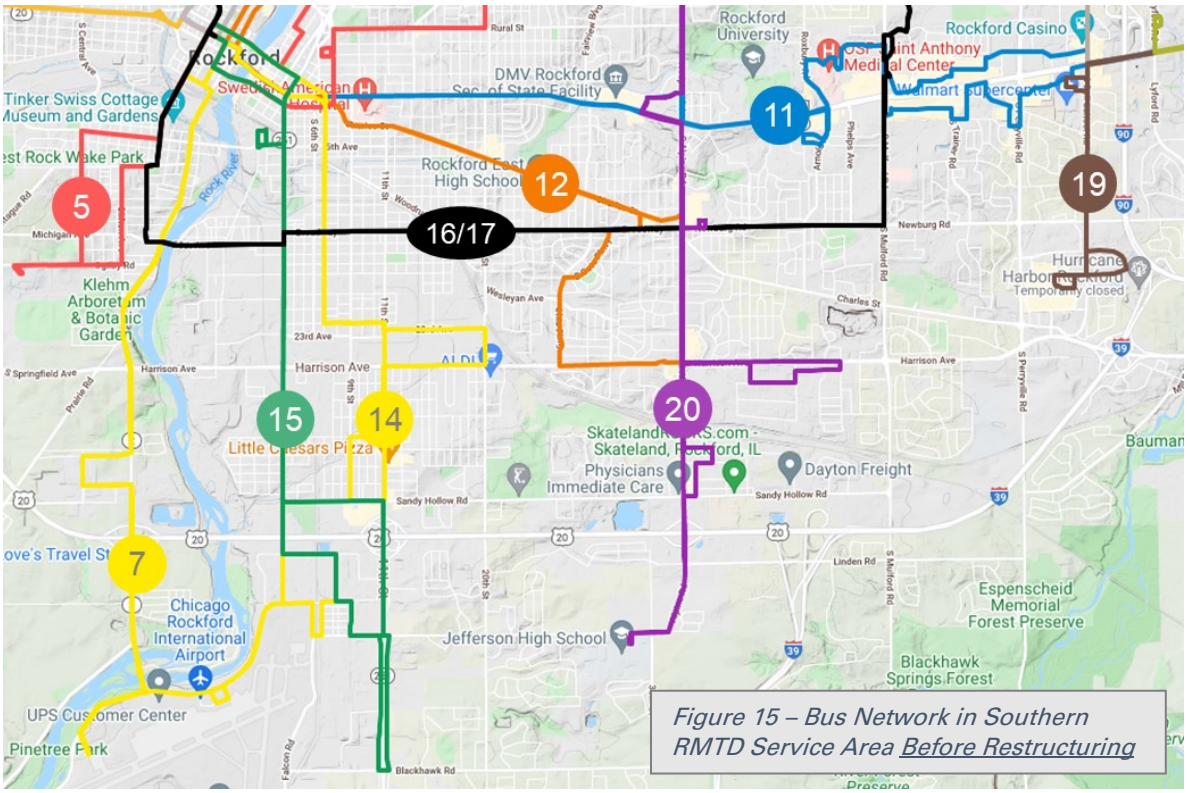

Figure 15 – Bus Network in Southern RMTD Service Area Before Restructuring

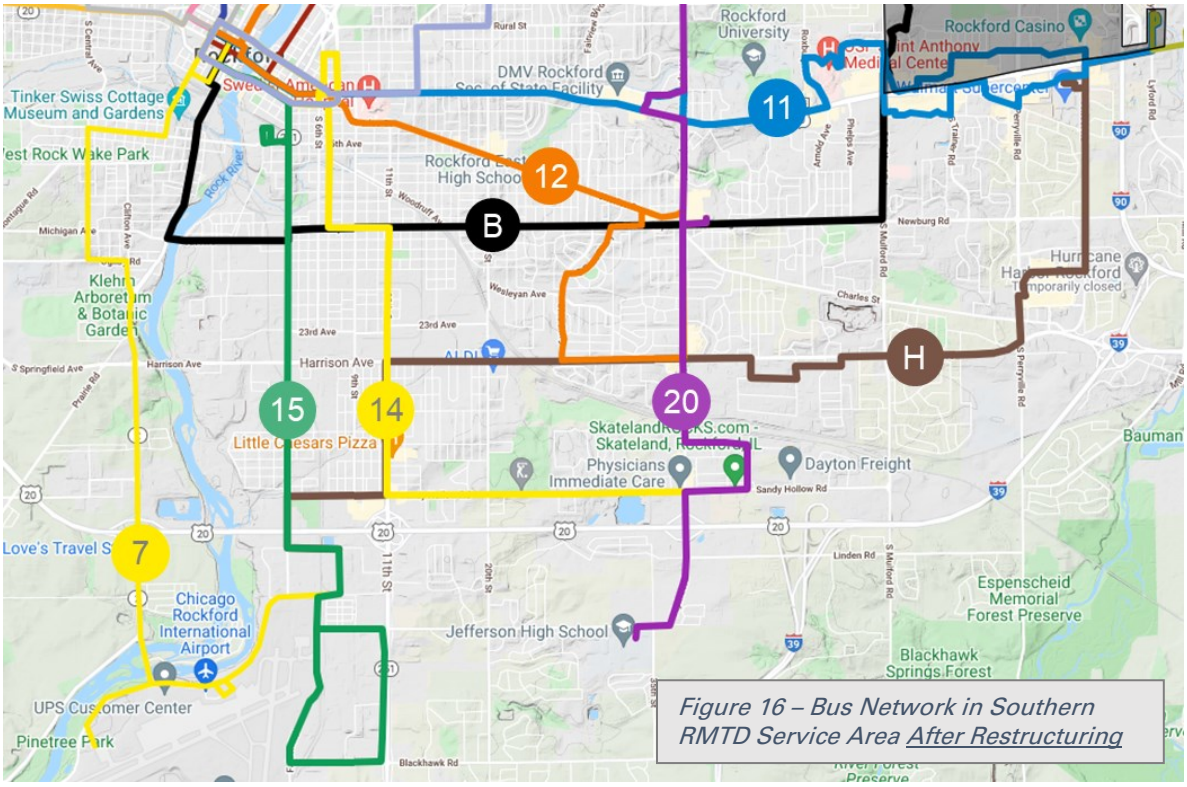

Figure 16 – Bus Network in Southern RMTD Service Area After Restructuring

The next series of maps illustrates which routes would operate on which days of the week and which routes would operate frequent service on weekdays.

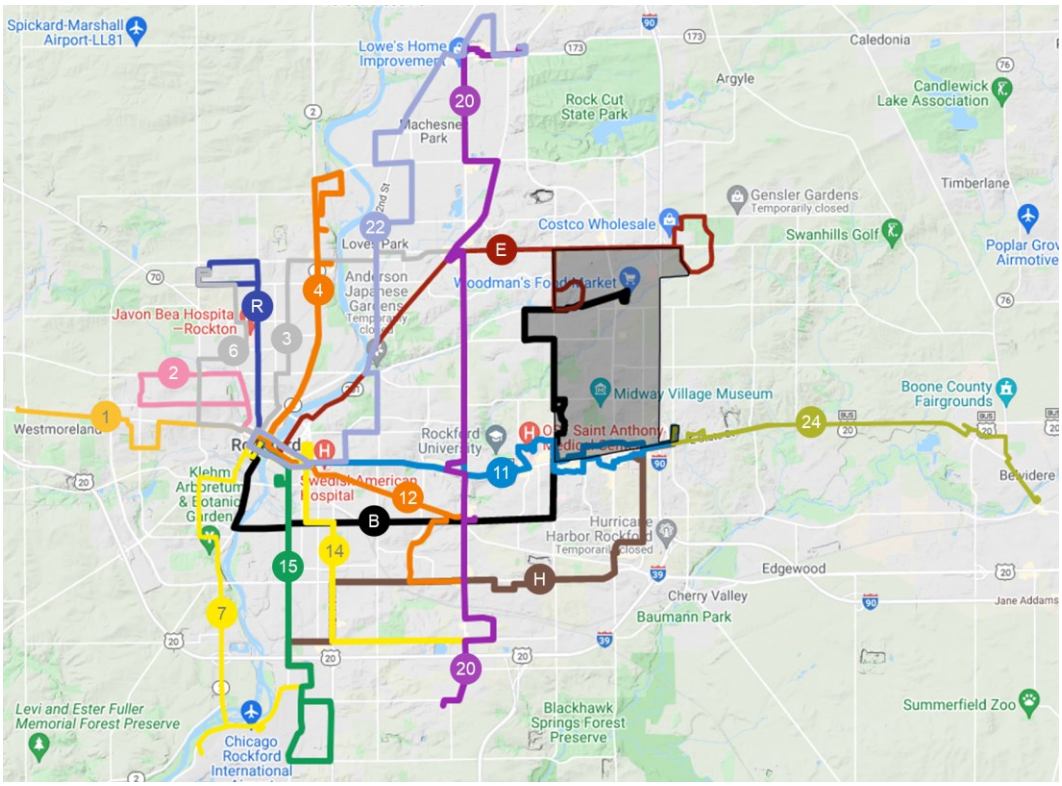

Figure 17 – Routes that would operate weekday service under Phase 4

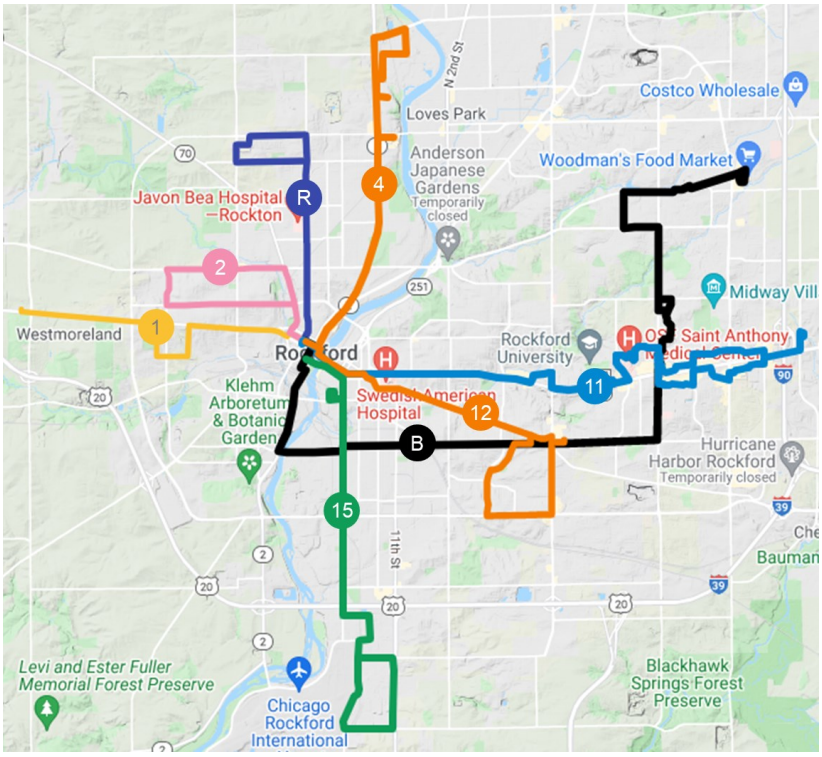

Figure 18 – Routes that would operate weekday peak period service of every 30 minutes under Phase 4.

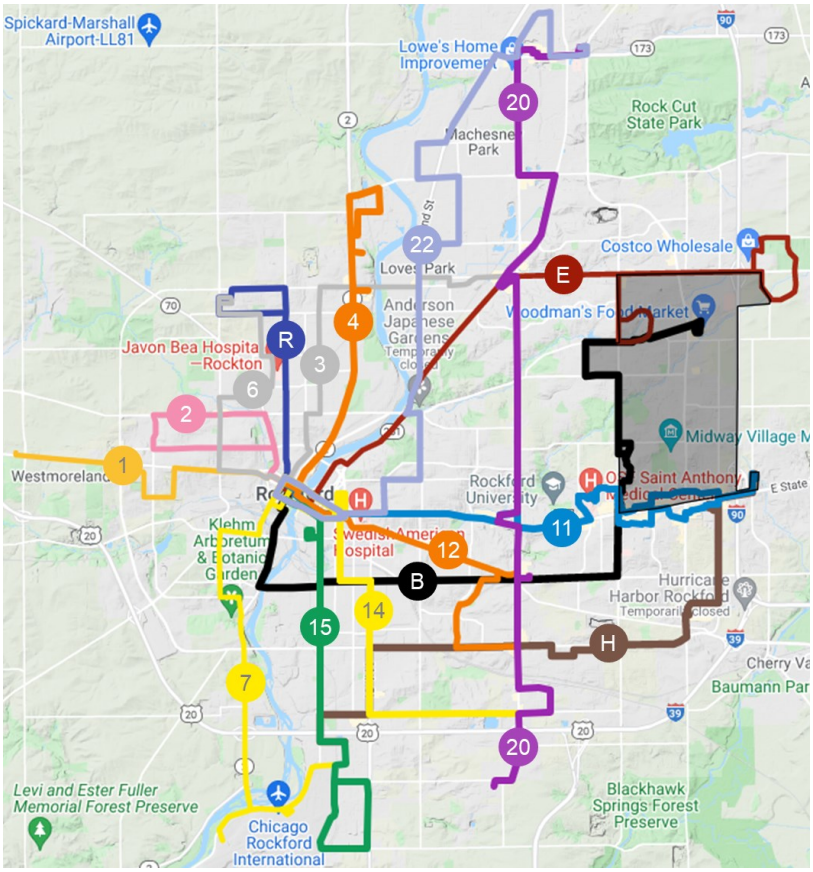

Figure 19 – Routes that would operate Saturday service under Phase 4

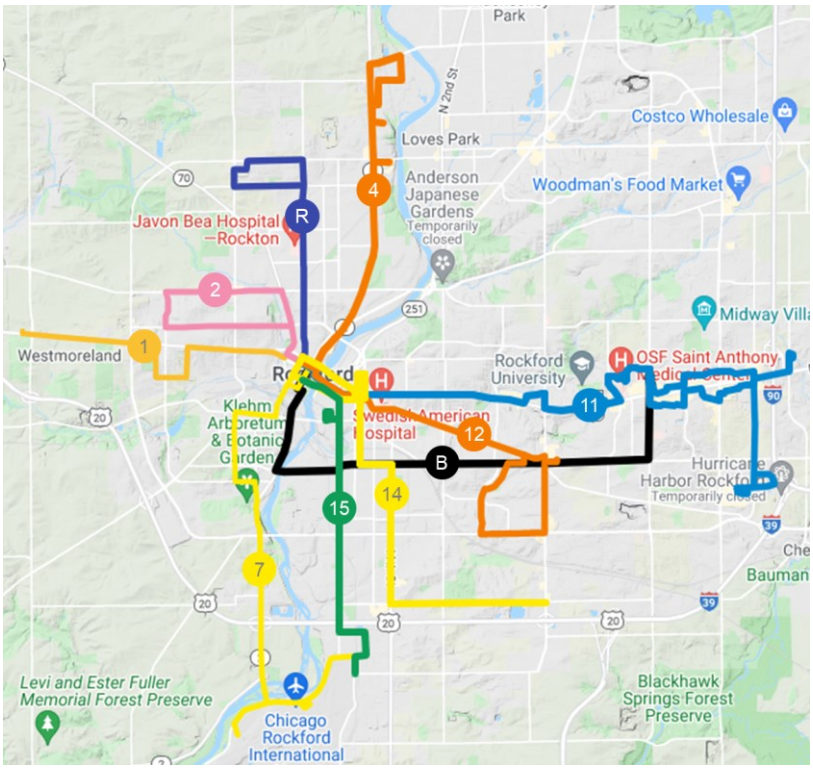

Figure 20 – Routes that would operate Sunday service under Phase 4

Call Out Box: What is on-demand transit?

Phase 4 proposes adding a form of on-demand transit, sometimes called "microtransit," that allows customers to make trips between any two locations inside a designated zone. Customers place a request via their phone on the same day as their trip, then the on-demand vehicle will pick them up and take them to their destination within the zone. This is similar to ADA paratransit service, but with a higher level of service in a more focused area. The service is a shared ride with other customers. For trips that repeat every day, standing reservations may be allowed.

This service model can improve customer wait times in lower-demand areas where fixed-route buses are inefficient, while maintaining covering and connecting the first/last mile to/from the bus network. Other agencies operating this service model include Pace Suburban Bus, Tompkins Consolidated Area Transit in upstate New York, Capital Metro in Austin, and Seattle's King County Metro. These typically use smaller transit vans or cutaway vehicles similar to paratransit services.

Resource Needs

Under Phase 4, weekday service provision further increases to accommodate improvements in both routing and frequency. Weekly operator time would reach 2,418 hours, 32% more than October 2021 service, with an estimated operations cost of $375k per week ($19.2m annually). Overall, **Phase 4 increases annual operating costs by $1.3m compared with Phase 3**, or $4.7m compared with the October 2021 baseline. Sunday operator time would grow most significantly, from 49 hours in October 2021 to 121 hours (a 147% increase). Weekday and Saturday service would grow substantially as well, 26% and 49%, respectively, compared to October 2021.

In workforce terms, the weekday schedule would require 51 driver runs, the Saturday schedule 44 driver runs, and the Sunday schedule 15 driver runs. Accounting for time off and extra-board assignments, a total of 71 drivers are needed to implement Phase 4 (59 full-time; 12 part-time). Maximum vehicles in operation would be 28 on weekdays, 27 on Saturdays, and 14 on Sundays. Table 6 shows the daily and weekly resources needed under Phase 4.

Table 6 - Resources needed under Phase 4
Note that costs are shown in 2022 dollars.

	Operator Time (Hours)	Vehicle/ Platform Time (Hours)	Est. Daily Operation Cost[11]	Daily Driver Runs	Vehicles in Operation
Weekday	390	386	$60,544	51	28
Saturday	346	343	$53,778	44	27
Sunday	121	120	$18,806	15	14
Weekly Total	2,418	2,392	$375,303	-	-
Weekly Max	-		-	51	28

Strengths and weaknesses per evaluation priorities

Phase 4 offers significant rider benefits and furthers all the key objectives and guiding principles of the Comprehensive Mobility Analysis. Its key strength is that it addresses the route network's structural issues. Realigning routes, creating new routes, and introducing an on-demand zone would help RMTD serve well-defined markets while maintaining community access, as well as help decrease rider travel times and coordinate the service overall. However, the Phase 4 changes could be relatively disruptive when introduced, so they should be coupled with extensive rider outreach and education.

[11] Based on vehicle/platform time.

5. Summary and Next Steps

The Comprehensive Mobility Analysis has given RMTD a clear understanding of the current challenges and future opportunities associated with its bus operations. Building on this work, RMTD is already taking action to implement rapid improvements to the bus network. The **Phase 1** and **Phase 2** improvements to service spans will address a major customer request and could make bus service more attractive to riders traveling in the early morning and late evening. When Phase 2 is implemented, RMTD annual operating costs will have increased about $1.3m (9%) above "baseline" October 2021 levels. It will be important for RMTD to monitor the ridership of the added service to understand the new markets served. It is typical that an operator adjusts new service to best respond to these markets.

The proposed **Phase 3** improvements will help align service with customer demand by increasing peak frequency on core routes to every 30 minutes. This should help attract and retain customers who may find hourly service inconvenient. This also will bring RMTD service levels more in line with what is offered by peer agencies in comparable service areas. Phase 3 requires about $3.4m (23%) of increased annual operating cost beyond baseline levels.

While the first three phases represent incremental improvements to the RMTD's historical route structure, the proposed **Phase 4** improvements will restructure that route network to address the issues and opportunities identified as part of the Existing Conditions Assessment. These include improving access to key destinations, streamlining indirect routing, and making the weekday evening and Sunday networks more consistent with the regular weekday network. These changes will require about $4.7m (32%) of increased annual operating cost beyond baseline levels. While this phase involves a more significant change for customers, these structural changes are necessary to modernize the route network for current travel needs.

A detailed comparison of all route-level changes included in Phase 3 and Phase 4 is presented in Table 7 below:

Table 7 – Potential Phase 3 and 4 route-level changes, compared with the Phase 2 network

Route	Phase 3 Changes	Phase 4 Changes
Rockton (new)	N/A	Create new route between downtown Rockford and West Riverside Walmart. Operates **30 minute** service during weekday peaks and hourly service on Saturdays, Sundays, and off-peak.
Broadway (new)	N/A	Create new route operating along S Main, Broadway, and Mulford between downtown Rockford and Rock Valley College/Woodman's. Operates **30 minute** service during weekday peaks and hourly service on Saturdays, Sundays, and off-peak.
East Riverside (new)	N/A	Create new route operating via Forest Hill and East Riverside between downtown and Javon Bea Hospital. Route would also serve YMCA of Rock River Valley and Rock Valley College. Operates hourly service on Weekdays and Saturdays.
Harrison (new)	N/A	Create new route on Harrison between Research Pkwy/ Assembly Dr near RFD and the East Side Transfer Center. Route would serve CherryVale Mall. Operates hourly service on Weekdays and Saturdays.
East Side On-Demand (new)	N/A	Create new on-demand zone to provide coverage of lower-demand areas on east side. Operates on Weekdays and Saturdays.

Route	Phase 3 Changes	Phase 4 Changes
1	--	Add Sunday and weekday evening service. Streamline low-demand deviations to provide a more direct ride for customers.
2	--	Add Sunday and weekday evening service.
3	--	Increase service to run hourly. Extend route east to Riverside/Alpine instead of West Riverside Walmart.
4	Increase weekday peak frequency to every **30 minutes**.	Increase weekday peak frequency to every **30 minutes**. Add Sunday and weekday evening service. Streamline low-demand deviations to provide a more direct ride.
5	--	Eliminate route but maintain coverage via Routes 7 and Broadway.
6	--	Increase service to run hourly. Adjust route to run via Central and to operate bidirectionally behind Javon Bea Hospital.
7	--	Add Sunday and weekday evening service. Shift northern routing onto Central. Streamline low-demand deviations to provide a more direct ride for customers.
11	--	Add Sunday and weekday evening service. Streamline parts of routing to provide a more direct ride for customers. Will serve CherryVale Mall on Sundays.
12	Increase weekday peak frequency to every **30 minutes**.	Increase weekday peak frequency to every **30 minutes**. Add Sunday and weekday evening service.
13	--	Eliminate route and instead serve the area using Routes 22, 14, and new East Riverside Route.
14	--	Add Sunday and weekday evening service. Streamline routing via 11th St and remove low-demand deviations to provide a more direct ride for customers. Add a stop at Park Terrace. Realign south end to end at Sandy Hollow/Alpine.
15	Increase weekday peak frequency to every **30 minutes**.	Increase weekday peak frequency to every **30 minutes**. Add Sunday and weekday evening service. Streamline low-demand deviations to provide a more direct ride for customers. Realign far south end to follow development patterns.
16/17	On Rockton and Broadway sections, increase weekday peak frequency to every **30 minutes**.	Eliminate route and replace it with new routes on Rockton, Broadway, and East Riverside.
18	--	Eliminate route and instead serve the area with a new East Side On-Demand microtransit zone.
19	--	Eliminate route and instead serve CherryVale with a new Harrison route.
20	--	Streamline routing and remove Harrison deviation to provide a more direct ride for customers.
22	--	Extend route downtown via Rural St. Improve consistency by having route follow same routing in both directions.
24	--	--
31/41	--	Eliminate all Sunday-only and weekday evening-only routes. Instead, regular routes will run during those times.
33/43	--	
34/44	--	
35/45	--	
32	--	
36	--	
40/42	--	

Tables 8-11 below compare all resource needs based on the schedules in October 2021 (baseline) and under Phases 1 through 4. Note that these figures do not include the East Side On-Demand service, which would be part of Phase 4. It would run 12 hours on weekdays and Saturdays and be operated by paratransit drivers on paratransit vehicles. Its estimated annual operation cost is $553,200.

Table 8 – Operator Hours comparison across phases

Phase	Weekday	Saturday	Sunday	Weekly Total	Change (compared to Baseline)
October 2021 Baseline	309	233	49	1,829	N/A
Phase 1 - Weekday span	328	233	49	1,923	5.2%
Phase 2 - Saturday & Sunday span	328	285	71	1,997	9.2%
Phase 3 - Peak frequency	380	285	71	2,255	23.3%
Phase 4 - Network restructuring	390	346	121	2,418	32.2%

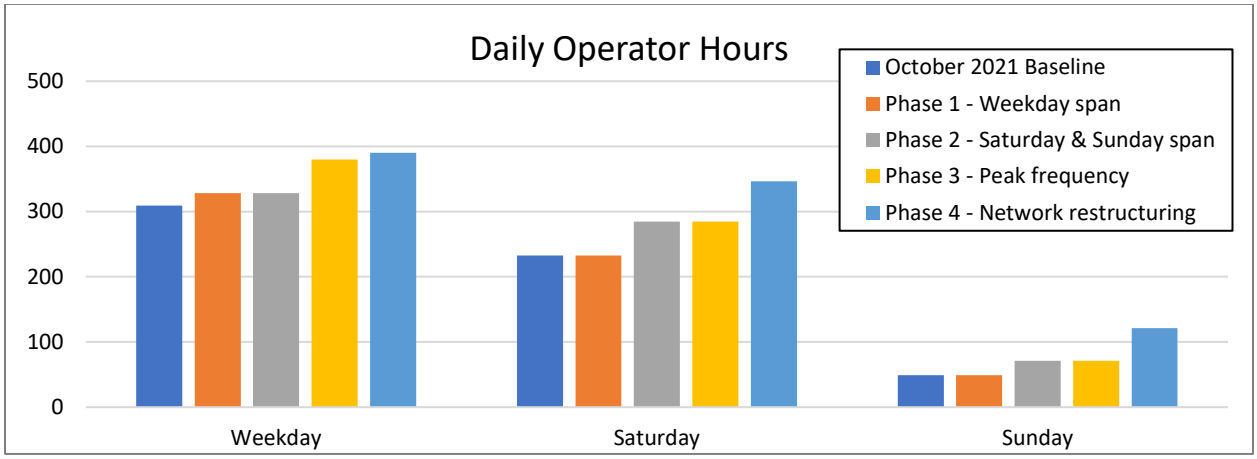

Figure 21 – Daily Operator Hours comparison across phases

Table 9 – Vehicle/Platform Hours comparison across phases

Phase	Weekday	Saturday	Sunday	Weekly Total	Change (compared to Baseline)
October 2021 Baseline	306	230	49	1,810	N/A
Phase 1 - Weekday span	325	230	49	1,904	5.2%
Phase 2 - Saturday & Sunday span	324	281	70	1,974	9.1%
Phase 3 - Peak frequency	376	281	70	2,230	23.2%
Phase 4 - Network restructuring	386	343	120	2,392	32.2%

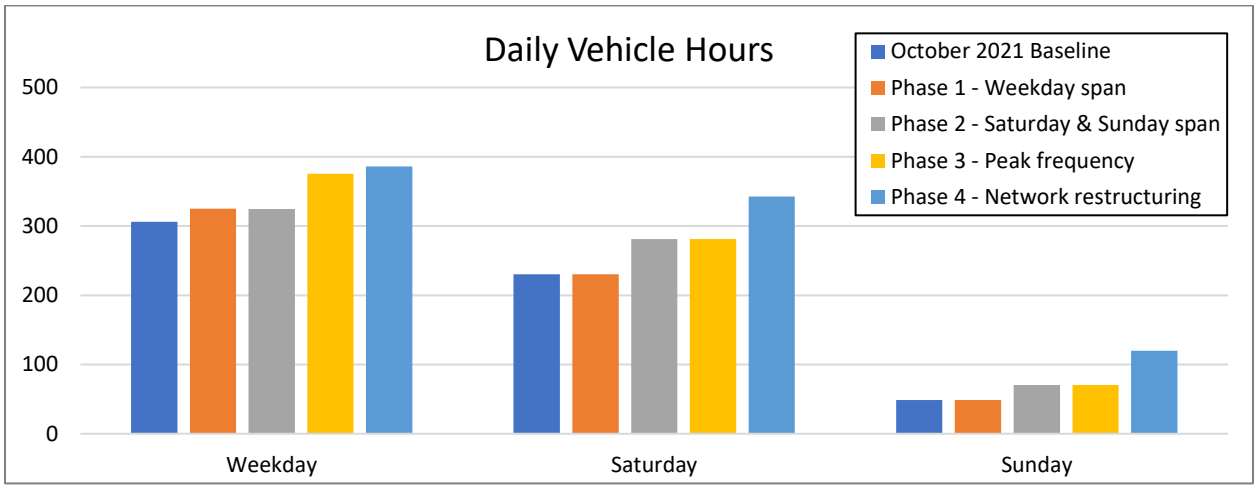

Figure 22 – Daily Vehicle/Platform Hours comparison across phases

Table 10 – Estimated Daily and Annual Operating Cost comparison across phases
Note that costs are shown in 2022 dollars and are based on Vehicle/Platform Hours.
Also note that, because Phase 1 was implemented outside of a pick, it includes overtime pay on weekdays.
The Phase 2 weekday service is less costly because it avoids this overtime.

Phase	Weekday	Saturday	Sunday	Annual Total	Change (compared to Baseline)
October 2021 Baseline	$48,051	$36,115	$7,610	$14,703,040	N/A
Phase 1 – Weekday span	$51,017	$36,115	$7,610	$15,841,830	5.2%
Phase 2 – Saturday & Sunday span	$50,912	$44,134	$11,023	$16,061,025	9.1%
Phase 3 – Peak frequency	$58,935	$44,134	$11,023	$18,131,735	23.2%
Phase 4 – Network restructuring	$60,544	$53,778	$18,806	$19,447,716	32.2%

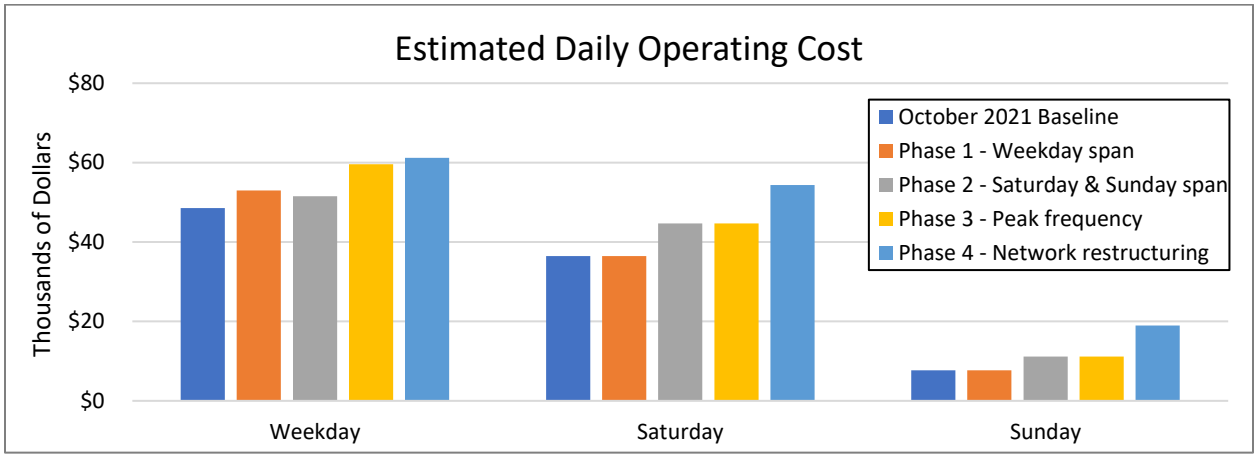

Figure 23 – Estimated Daily and Annual Operating Cost comparison across phases

Table 11 - Driver Runs, comparison across phases

Phase	Weekday	Saturday	Sunday	Weekly Runs	Change (compared to Baseline)
October 2021 Baseline	38	28	6	224	N/A
Phase 1 - Weekday span	38	28	6	224	0.0%
Phase 2 - Saturday & Sunday span	46	40	9	279	24.6%
Phase 3 - Peak frequency	51	40	9	304	35.7%
Phase 4 - Network restructuring	51	44	15	314	40.2%

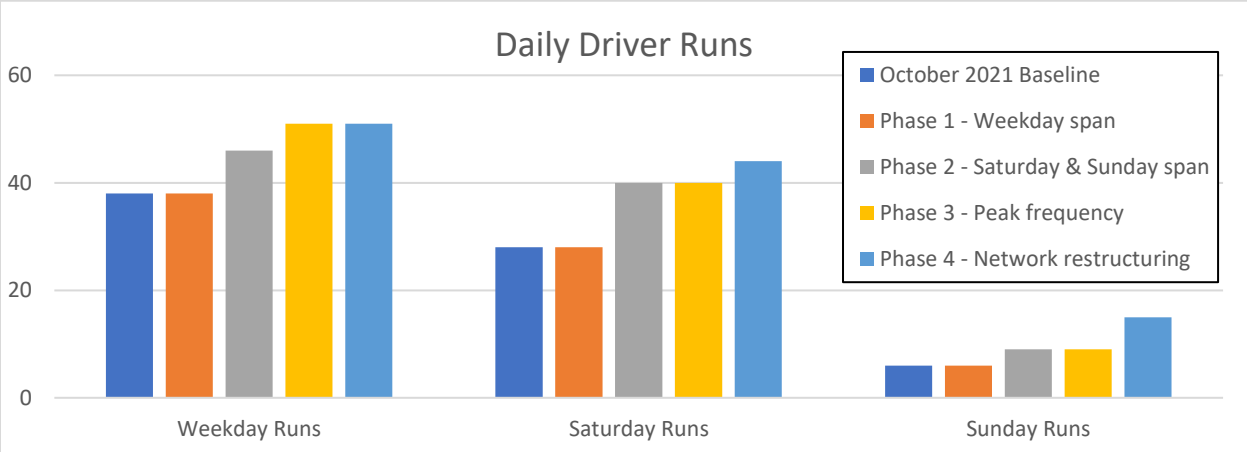

Figure 24 – Daily Driver Runs comparison across phases

Table 12 – Required Driver Workforce, comparison across phases
Note that driver workforce is estimated based on a weekly roster in which the following assumptions are applied:

- *Weekly Schedule is designed to maximize full-time positions and minimize weekly over-time hours.*
- *Each driver receives two (2) full off-days per week*
- *Full-time drivers are assigned daily runs of 7.5 hours (or more).*
- *Full-time drivers work no less than 40 hours per week (max is 42.1 weekly hours)*
- *Conceptually, part-time drivers work no more than 32 hours per week. However, in some cases weekly hours slightly exceed 32 in an attempt to maintain 5-day work week while keeping low the number of part-time drivers.*

Phase	Full-Time Drivers	Extra Board	Part-Time Drivers	Total Drivers	Change (compared to Baseline)
October 2021 Baseline	44	8	6	58	N/A
Phase 1 - Weekday span	44	8	6	58	0.0%
Phase 2 - Saturday & Sunday span	36	8	20	64	10.3%
Phase 3 - Peak frequency	47	8	16	71	22.4%
Phase 4 - Network restructuring	51	8	12	71	22.4%

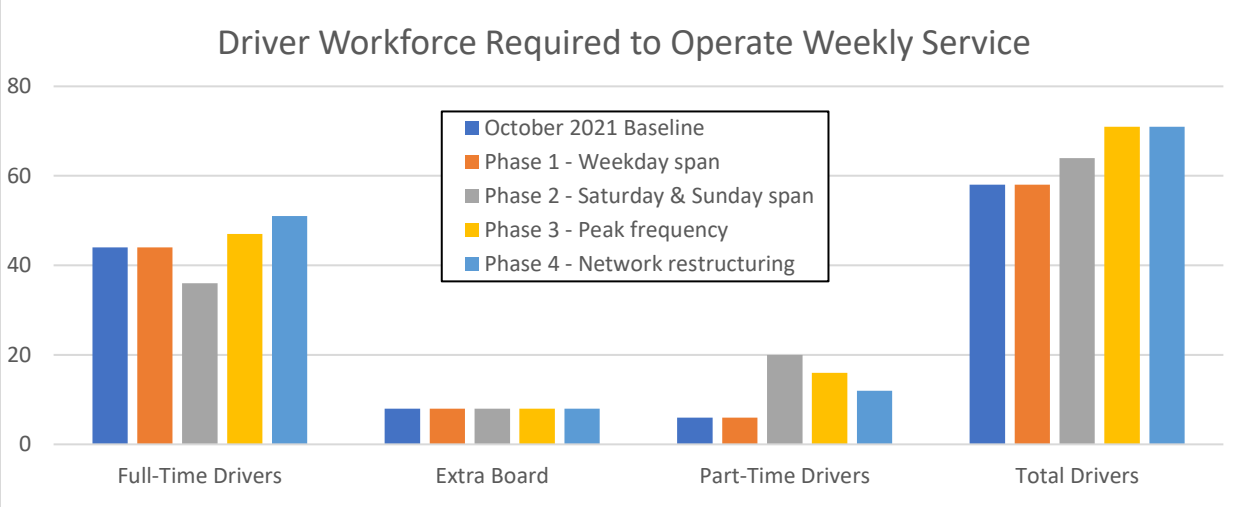

Figure 25 – Driver workforce requirements comparison across phases

Table 13 – Vehicles in Operation comparison across phases
Note that in many cases, the peak number of vehicles is only used for a brief five-minute period while transitioning between assignments.

Phase	Weekday	Saturday	Sunday	Weekly Max	Change (compared to Baseline)
October 2021 Baseline	24	22	6	24	N/A
Phase 1 - Weekday span	24	22	6	24	0.0%
Phase 2 - Saturday & Sunday span	27	27	9	27	12.5%
Phase 3 - Peak frequency	28	27	9	28	16.7%
Phase 4 - Network restructuring	28	27	14	28	16.7%

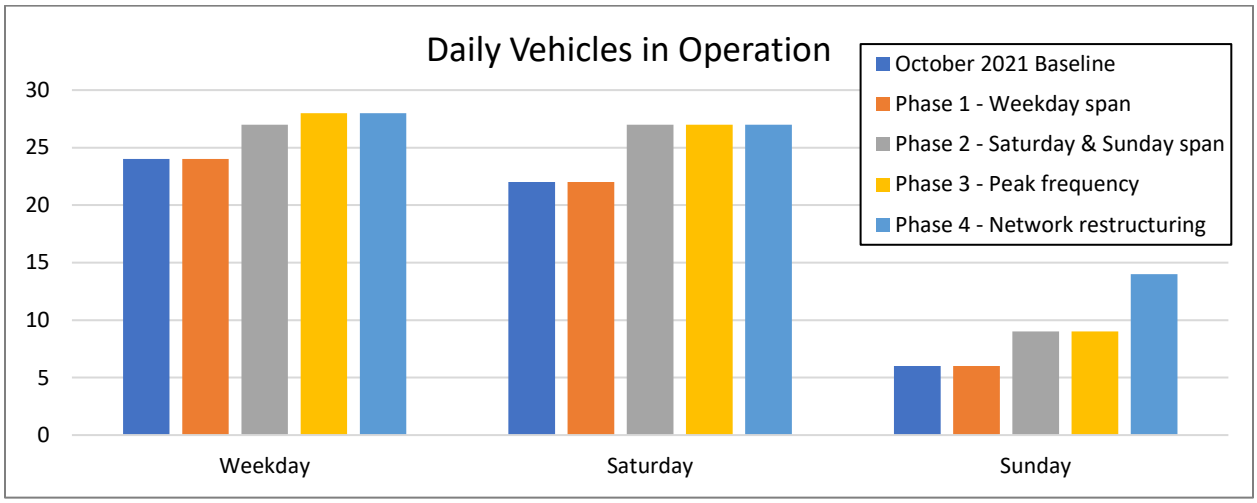

Figure 26 – Vehicles in Operation comparison across phases

If the Board of Directors supports the implementation of Phase 3 and/or Phase 4, RMTD should begin steps towards implementing these transformational investments. This should include required public hearings that generate feedback on the proposed plans before final approval. Based on the resource requirements summarized above, implementation will also require hiring new bus operators. In addition, RMTD should plan for staff effort to finalize service schedules, update infrastructure such as bus stop signage, and communicate the changes publicly. These proposed investments in a more robust modern transit network will yield benefits to customers and the broader community for years to come.