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Topeka Metro System Analysis
Final Report

April 2022

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Introduction

AECOM, in coordination with Topeka Metro have completed this **System Analysis Plan** to address the mobility needs of area residents. The overarching goal of the plan is focused on analyzing current transit services and operations to identify opportunities to enhance service delivery and improve service efficiency. The plan explores alternative forms of service delivery and includes the identification of short- to mid-term needs, challenges, and opportunities.

Over the past two years, Topeka Metro has experienced a decrease in ridership due to the impacts of COVID-19. Although the agency did not experience the steep losses in ridership that larger, commuter-based systems around the country had, the system did lose about 30% of pre-COVID ridership. This study includes an assessment of existing service and will provide recommendations to improve the system with a focus on efficiency, ridership and productivity.

System Overview

Topeka Metro provides 12 fixed-routes, a Flex service and a Lift Paratransit service. The focus of this study is the fixed-route system including the Flex service in east Topeka. As shown in **Figure 1**, the system is designed to provide timed transfers between routes at the downtown transit center, Quincy Street Station (QSS), located at Quincy Street and 9th Street. Routes 1 and 2 primarily travel north from downtown. Route 3 travels east and Routes 4 and 5 travel south and southeast. All other routes travel primarily west from downtown Topeka. The east-west routes travel approximately ½ mile parallel from each other from Route 6 (6th Avenue) in the north to 37th Street (Route 5 – Indiana) in the south.

Table 1 outlines the overall route characteristics. All routes operate Monday through Saturday, though hours vary by route between weekdays and Saturday.

Route 3 and Route 6 operate weekdays on 30-minute frequencies for both peak and off-peak periods. Routes 4, 10, 12, 17, and 21 operate 30-minute frequencies during period peak periods and 60 minutes during the off-peak. Routes 1, 2, 5, 7 and 29 operate 60 minutes all day on weekdays.

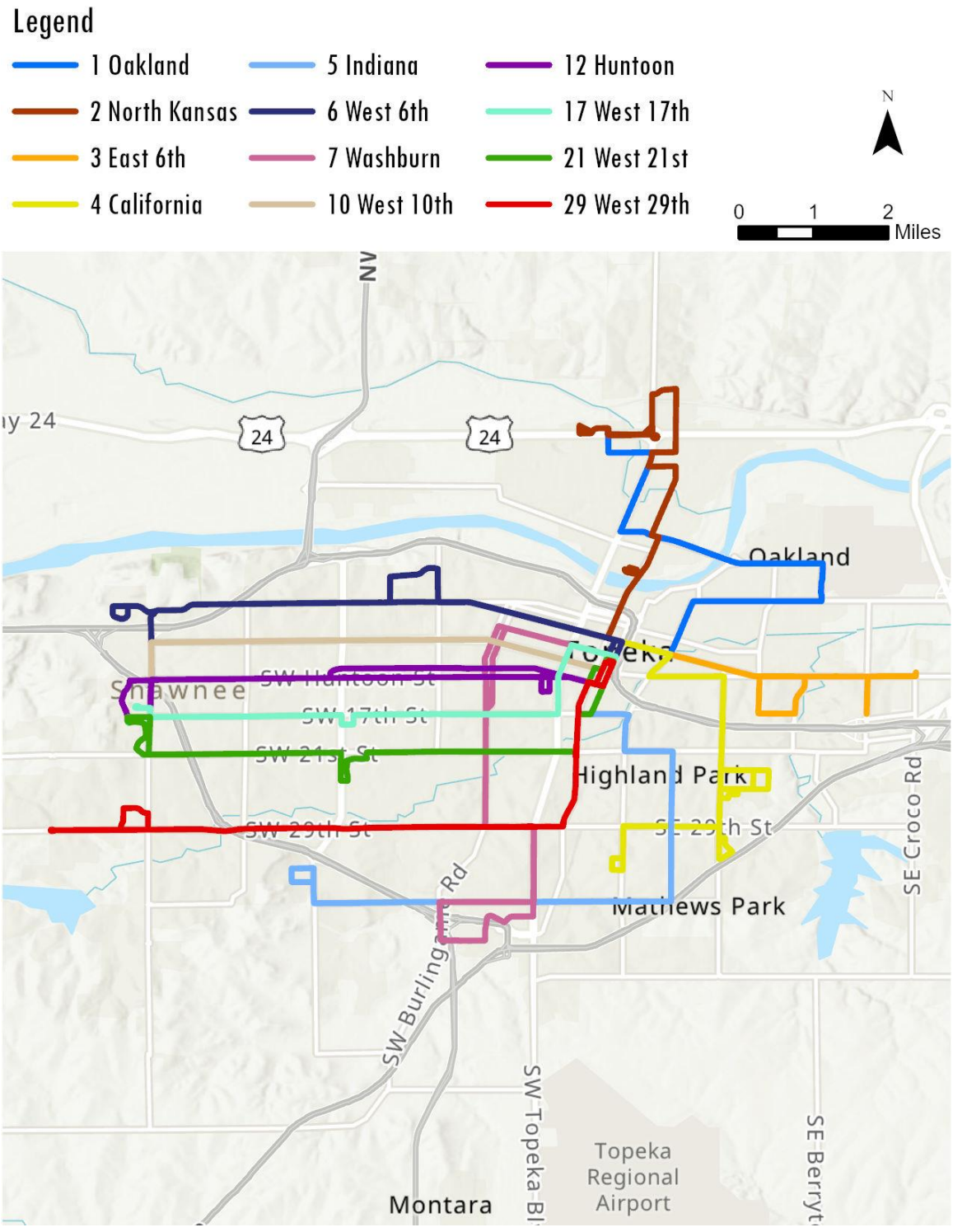
All routes except Route 3 operate on a 60-minute frequency all day on Saturdays. Route 3 operates at a 30-minute frequency on Saturdays.

Table 1: Route Characteristics

Route	Weekday Service Hours	Weekday Peak Frequency	Weekday Off-Peak Frequency	Saturday Service Hours	Saturday Peak Frequency	Saturday Off-Peak Frequency
Route 1 – Oakland	6:15 AM – 6:40 PM	60	60	8:15 AM – 6:10 PM	60	60
Route 2 – North Kansas	6:45 AM – 6:40 PM	60	60	8:45 AM – 6:40 PM	60	60
Route 3 – East 6th	6:15 AM – 6:40 PM	30	30	8:15 AM – 6:10 PM	30	30
Route 4 – California	5:41 AM – 6:40 PM	30	60	8:15 AM – 6:10 PM	60	60
Route 5 - Indiana	6:15 AM – 6:10 PM	60	60	8:15 AM – 6:10 PM	60	60
Route 6 – West 6th	5:45 AM – 6:40 PM	30	30	8:15 AM – 6:10 PM	60	60
Route 7- Washburn	5:45 AM – 6:40 PM	60	60	8:45 AM – 6:40 PM	60	60
Route 10 – West 10th	6:15 AM – 6:41 PM	30	60	8:15 AM – 6:10 PM	60	60
Route 12 – Huntoon	6:15 AM – 6:40 PM	30	60	8:45 AM – 6:40 PM	60	60
Route 17 – West 17th	6:45 AM – 6:40 PM	30	60	8:45 AM – 6:40 PM	60	60
Route 21 – West 21st	5:41 AM – 6:40 PM	30	60	8:15 AM – 6:10 PM	60	60
Route 29 – West 29th	6:15 AM – 6:10 PM	60	60	8:15 AM – 6:10 PM	60	60

Source: Topeka Metro, 2021

Figure 1: Topeka Metro System Map



System Performance

The focus of this evaluation is on current system performance. The assessment includes data collected through DoubleMap for the month of May 2021. This time period was selected as the primary data set as it was a year after the beginning of COVID so new potential ridership patterns would have already been established. In addition, it is three months after Topeka Metro ended the fare-free period from June 2020 to February 2021.

Table 2 illustrates the operating and performance measures for the Topeka Metro system. The system had a total of 46,806 passenger trips in May 2021and the buses traveled approximately 72,308 revenue miles with 4,287 revenue hours.

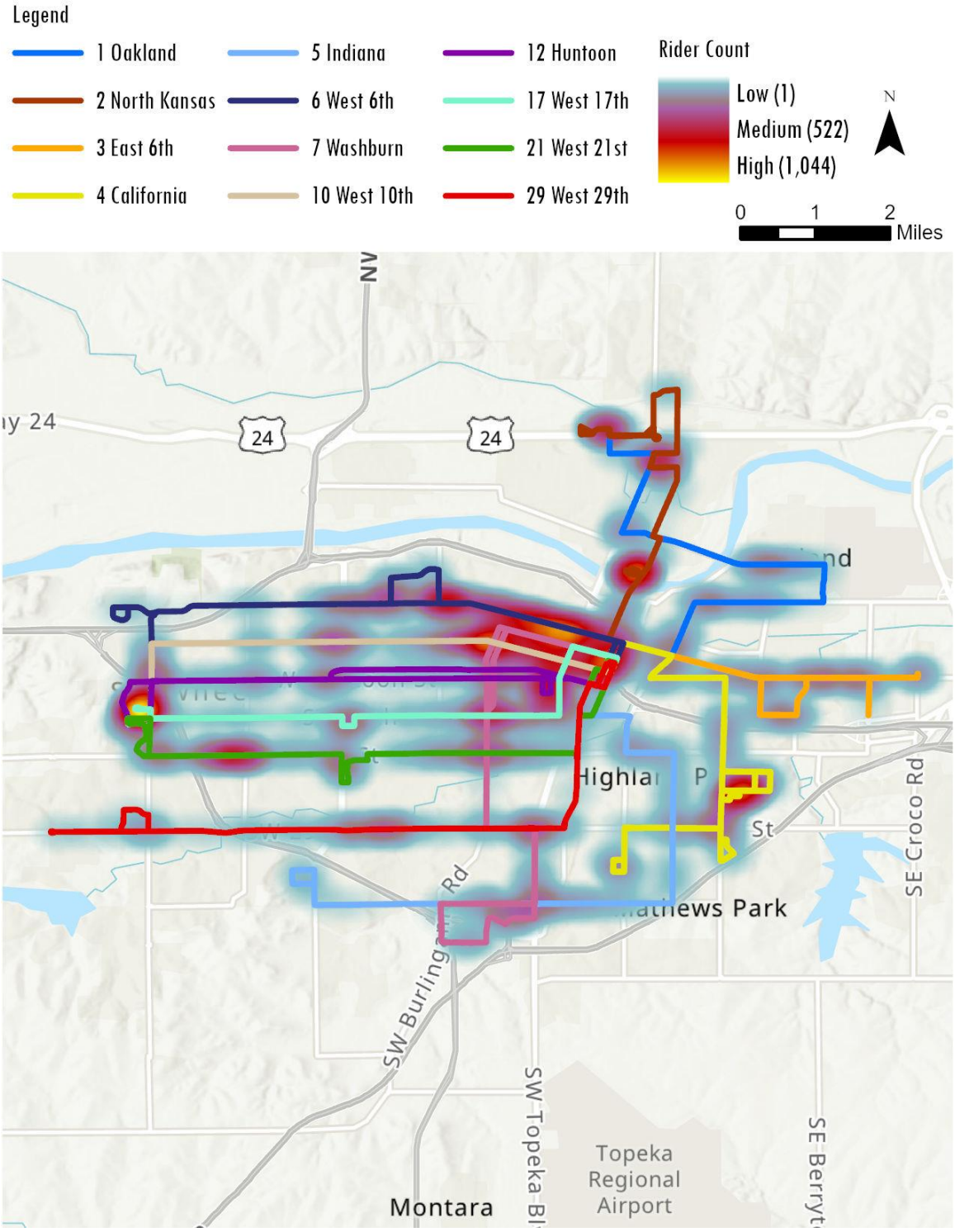
Table 2: Operating Characteristics and Performance Measures May 2021

Operating Characteristics	
Passenger Trips	46,806
Revenue Miles	72,308
Revenue Hours	4,287
Performance Measures	
Passengers per Revenue Hour	11
Passengers per Revenue Mile	0.6

Source: Topeka Metro; DoubleMap, May 2021

Figure 2 illustrates the weekday ridership activity of the entire system. The system ridership map shows that downtown Topeka/QSS and the Wanamaker corridor are the major ridership generators for the system. Retail areas such as Walmart East, Walmart South, and Walmart West all are notable ridership hubs for the system. Also there is lower ridership activity on route segments in southwest Topeka.

Figure 2: Topeka Metro Systemwide Weekday Ridership (May 2021)



Source: DoubleMap, May 2021

Route Service Characteristics

This section provides an overview of the Topeka Metro system, including its operating characteristics, transfer analysis, system performance and route profiles.

This section ranks the routes on average weekday ridership and passengers per revenue hour. Both weekday ridership and Saturday ridership averages were calculated using DoubleMap data from May 2021. The averages represent the typical daily ridership (per weekday or per Saturday). The routes were ranked for average ridership (one to twelve), as shown in **Table 3** and **Table 6**.

The routes were also ranked based on their average passengers per revenue hour (productivity), as shown in **Table 4** for weekday passengers per revenue hour and **Table 7** for Saturday passengers per revenue hour. Additionally, the passengers per revenue mile for all routes were analyzed and ranked, as reported in **Table 5** for weekday passengers per revenue mile and **Table 8** for Saturday passengers per revenue mile.

Route 6 had the highest weekday ridership with 253 riders per day. Route 10 and Route 17 were ranked second and third, respectively. Route 5 ranked the lowest at 126 boardings – approximately half as many as Route 6. The average weekday ridership for all routes was 169 passengers.

Table 3: Average Weekday Ridership (May 2021)

Route	Average Weekday Ridership
Route 6 – West 6th	253
Route 10 – West 10th	219
Route 17 – West 17th	182
Route 2 – North Kansas	176
Route 4 – California	175
Route 21 – West 21st	168
Route 12 – Huntoon	158
Route 3 – East 6th	155
Route 1 – Oakland	150
Route 29 – West 29th	137
Route 7- Washburn	133
Route 5 - Indiana	126

Source: DoubleMap, May 2021

As shown in **Table 4**, Route 2 ranked the highest for weekday passengers per revenue hour at 14.7 followed by Route 10 (12.8) and Route 3 (12.7). Routes 21, 4 and 12 had the lowest weekday passengers per revenue hour, between 8.5 and 8.8.

Table 4: Weekday Passengers per Revenue Hour (May 2021)

Route	Weekday Passengers per Revenue Hour
Route 2 – North Kansas	14.7
Route 10 – West 10th	12.8
Route 3— East 6th	12.7
Route 1 – Oakland	12.2
Route 29 – West 29th	11.4
Route 5 – Indiana	10.5
Route 6 – West 6th	10.3
Route 7 – Washburn	10.2
Route 17 – West 17th	9.3
Route 21 – West 21st	8.8
Route 4 – California	8.8
Route 12 – Huntoon	8.5

Source: Topeka Metro; DoubleMap May 2021

The number of passengers who are served per mile of revenue service is also an indication of productivity of the service. As shown in **Table 5**, Route 2 ranked the highest for weekday passengers per revenue mile at 1.02. Most routes rank at or above the system average of .6 passengers per mile, as reported in **Table 2**. Route 5 ranked the lowest for passengers per revenue mile with .55.

Table 5: Weekday Passengers per Revenue Mile (May 2021)

Route	Weekday Passengers per Revenue Mile
Route 2 North Kansas	1.02
Route 10 West 10th	0.98
Route 7 Washburn	0.71
Route 1 Oakland	0.71
Route 12 Huntoon	0.70
Route 29 West 29th	0.69
Route 17 West 17th	0.67
Route 3 East 6th	0.67
Route 21 West 21st	0.63
Route 4 California	0.62
Route 6 West 6th	0.62
Route 5 Indiana	0.55

Source: Topeka Metro; DoubleMap May 2021

Saturday average ridership for May 2021 was lower than weekday ridership, as shown in **Table 6**. The average Saturday ridership for all routes was 103 passengers. Route 6 – the top performer for weekday ridership – was second for Saturdays. The top performing route for Saturday ridership was Route 21. Route 29 was the weakest performing with an average of 39 riders per Saturday, much lower than the second lowest, Route 3 with 64 boardings.

Table 6: Saturday Average Ridership (May 2021)

Route	Saturday Average Ridership
Route 21 – West 21st	146
Route 6 – West 6th	130
Route 2 – North Kansas	130
Route 10 – West 10th	118
Route 17 – West 17th	116
Route 4 – California	115
Route 12 – Huntoon	113
Route 7- Washburn	103
Route 1 – Oakland	90
Route 5 - Indiana	71
Route 3 – East 6th	64
Route 29 – West 29th	39

Source: DoubleMap, May 2021

As shown in **Table 7**, Route 21was the strongest performer in terms of Saturday passengers per revenue hour. Route 29 was ranked last, similar to its poor ranking for average Saturday ridership.

Table 7: Saturday Passengers per Revenue Hour (May 2021)

Route	Saturday Passengers per Revenue Hour
Route 21 – West 21st	14.6
Route 6 – West 6th	13.0
Route 2 – North Kansas	13.0
Route 10 – West 10th	11.8
Route 17 – West 17th	11.6
Route 4 – California	11.5
Route 12 – Huntoon	11.3
Route 7- Washburn	10.3
Route 1 – Oakland	9.0
Route 5 - Indiana	7.1
Route 3 – East 6th	6.4
Route 29 – West 29th	3.9

Source: Topeka Metro; DoubleMap May 2021

As shown in **Table 8**, Route 29 had a high of 1.01 passengers per revenue mile, indicating strong productivity for this route. Route 12 and Route 21 ranked the lowest at .34 and .24 passengers per revenue mile, respectively, for May 2021.

Table 8: Saturday Passengers per Revenue Mile (May 2021)

Route	Saturday Passengers per Revenue Mile
Route 29 West 29th	1.01
Route 3 East 6th	0.99
Route 5 Indiana	0.94
Route 1 Oakland	0.94
Route 7 Washburn	0.85
Route 4 California	0.80
Route 6 West 6th	0.77
Route 17 West 17th	0.71
Route 10 West 10th	0.55
Route 2 North Kansas	0.38
Route 12 Huntoon	0.34
Route 21 West 21st	0.24

Source: Topeka Metro; DoubleMap May 2021

Transfer Analysis

An intercept survey was conducted by Topeka Metro staff from August 24 to August 30, 2021 to collect passenger transfer data. The purpose of the survey was to get an understanding of transfer activity on the system. It should be noted that the survey was intended to provide high level information about passenger trends and was not designed to be a statistically significant survey. The survey that was provided to Topeka Metro passengers is shown in **Figure 3**. A total of 58 passengers were surveyed to collect the following information:

- Trip purpose
- Bus stop/nearest intersection of trip origin
- What routes were used to complete trip

Of the 58 total respondents, 40 provided route transfer information.

Figure 3: Passenger Transfer Survey

TOPEKA METRO

Passenger Transfer Survey

Please take a few moments to help plan for your transit needs by filling out this survey.

What is the purpose of your trip today? Please CIRCLE

Work **Home** **School** **Medical** **Shopping** **Other**

What is the bus stop name or closest intersection to where you started your trip?

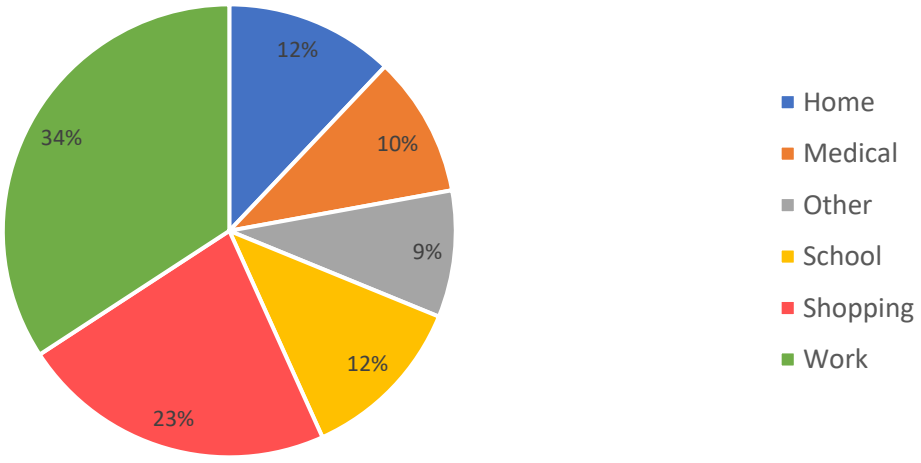
_____

Which route or routes do you use to complete this trip? Please CIRCLE.

1 Oakland	2 North Kansas	3 East 6th	4 California	5 Indiana	6 West 6th
7 Washburn	10 W 10th	12 Huntoon	17 West 17th	21 West 21st	29 West 29th

All 58 respondents provided their trip purpose. As shown in **Figure 4**, the purposes for trips were fairly evenly dispersed. 34% of trips were focused on getting to and from work. 23% of trips were for shopping. The remaining trips were for school, medical needs, and traveling to and from home.

Figure 4: Trip Purpose



Source: Intercept Survey, September 2021

Table 9 illustrates the systemwide transfers that occurred out of the 40 declared transfers. Routes 2, 4,10, and 21 had the most transfer activity. These routes each had a total of five riders who began their trip on another route but transferred to those routes. Riders who were transferring to these routes had various trip purposes. Approximately 30% of trips were for work and 26% were for shopping. The remaining trip purposes focused on school, medical, and going home. The Walmart South and Walmart West, specifically, were noted as being destinations for the shopping trips.

Route 1 had the most riders transferring to other routes, indicating that many riders use Route 1 to make connections to other parts of the service area. Approximately 33% of trips were for shopping; 22% were for shopping and traveling home. The remaining trips were dispersed between school and medical trips. Medical centers located on the western portions of Route 29 were noted as the destination of medical trips.

Table 9: Systemwide Transfer Analysis (Total Transfers)

From

To	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**10**	**12**	**17**	**21**	**29**	**Total**
Route 1		1	-	1	-	-	-	-	-	1	-	-	**3**
Route 2	-		-	-	-	-	2	-	1	1	1	-	**5**
Route 3	1	-		-	-	1	-	1	-	-	-	-	**3**
Route 4	2	-	-		1	1	-	-	-	1	-	-	**5**
Route 5	1	-	-	1		-	-	-	-	-	-	-	**2**
Route 6	-	-	-	-	-		-	1	1	1	-	1	**4**
Route 7	-	-	-	-	-	-		-	-	-	-	1	**1**
Route 10	-	-	-	2	-	-	-		1	-	-	2	**5**
Route 12	1	-	-	-	1	-	-	-		-	-	-	**2**
Route 17	-	-	-	-	-	-	-	-	-		-	1	**1**
Route 21	2	-	-	-	-	-	-	1	1	-		1	**5**
Route 29	2	-	-	1	-	-	1	-	-	-	-		**4**
Total	**9**	**1**	**0**	**5**	**2**	**2**	**3**	**3**	**4**	**4**	**1**	**6**	**40**

Table 10 shows the percentage of transfers that occurred within each trip. For example, Route 1 had 33% of its transfers to Route 2; 33% of the transfers to Route 4; and, 33% of the transfers were to Route 17.

The table illustrates the connections between the routes. Route 5 and Route 12 had over 50% of their transfers to Route 1, indicating connections between the two routes for riders. The same activity occurred for Routes 5 and 12 with Routes 4 and 5, respectively.

Table 10: Percentage of Transfers within Trip

To \ From	1	2	3	4	5	6	7	10	12	17	21	29	Total
Route 1		33%	-	33%	-	-	-	-	-	33%	-	-	**100%**
Route 2	-		-	-	-	-	40%	-	20%	20%	20%	-	**100%**
Route 3	33%	-		-	-	33%	-	33%	-	-	-	-	**100%**
Route 4	40%	-	-		20%	20%	-	-	-	20%	-	-	**100%**
Route 5	50%	-	-	50%		-	-	-	-	-	-	-	**100%**
Route 6	-	-	-	-	-		-	25%	25%	25%	-	25%	**100%**
Route 7	-	-	-	-	-	-		-	-	-	-	100%	**100%**
Route 10	-	-	-	40%	-	-	-		20%	-	-	40%	**100%**
Route 12	50%	-	-	-	50%	-	-	-		-	-	-	**100%**
Route 17	-	-	-	-	-	-	-	-	-		-	100%	**100%**
Route 21	40%	-	-	-	-	-	-	20%	20%	-		20%	**100%**
Route 29	50%	-	-	25%	-	-	25%	-	-	-	-		**100%**

Route Profiles

The following section details operating and performance data for each of the Topeka Metro routes. Data presented in this section is from DoubleMap (May 2021), Topeka Metro, and Remix.

Route 1 Oakland

Route 1 serves the Oakland neighborhood in Northeast Topeka with direct connections along the North Topeka Boulevard corridor, Dillons North and Walmart North, as shown in **Figure 5**. The route operates both weekdays and Saturdays and interlines with Route 17 – 17th Street at QSS.

Route 1 predominately serves single-family neighborhoods on the eastern and northern areas of Topeka in the Oakland neighborhood. Approximately 6,500 residents live within a ¼ mile of the route. There are also approximately 12,200 jobs within a ¼ mile of the route – with job clusters in downtown Topeka, the Burlington Northern and Santa Fe Railway Company (BNSF) Topeka Shops (a locomotive repair and maintenance facility), and commercial service jobs near the intersection of Lyman Road/North Topeka Boulevard as well as the Dillons North and Walmart North.

As shown in **Table 11**, this route serves, on average, 150 riders during each weekday. This route ranks 9th out of 12 for average weekday ridership. Saturdays on average also rank 9th out of 12 – with 90 riders per day. This route operates on 60-minute frequencies Monday through Saturday for both peak and off-peak periods.

Key Destinations

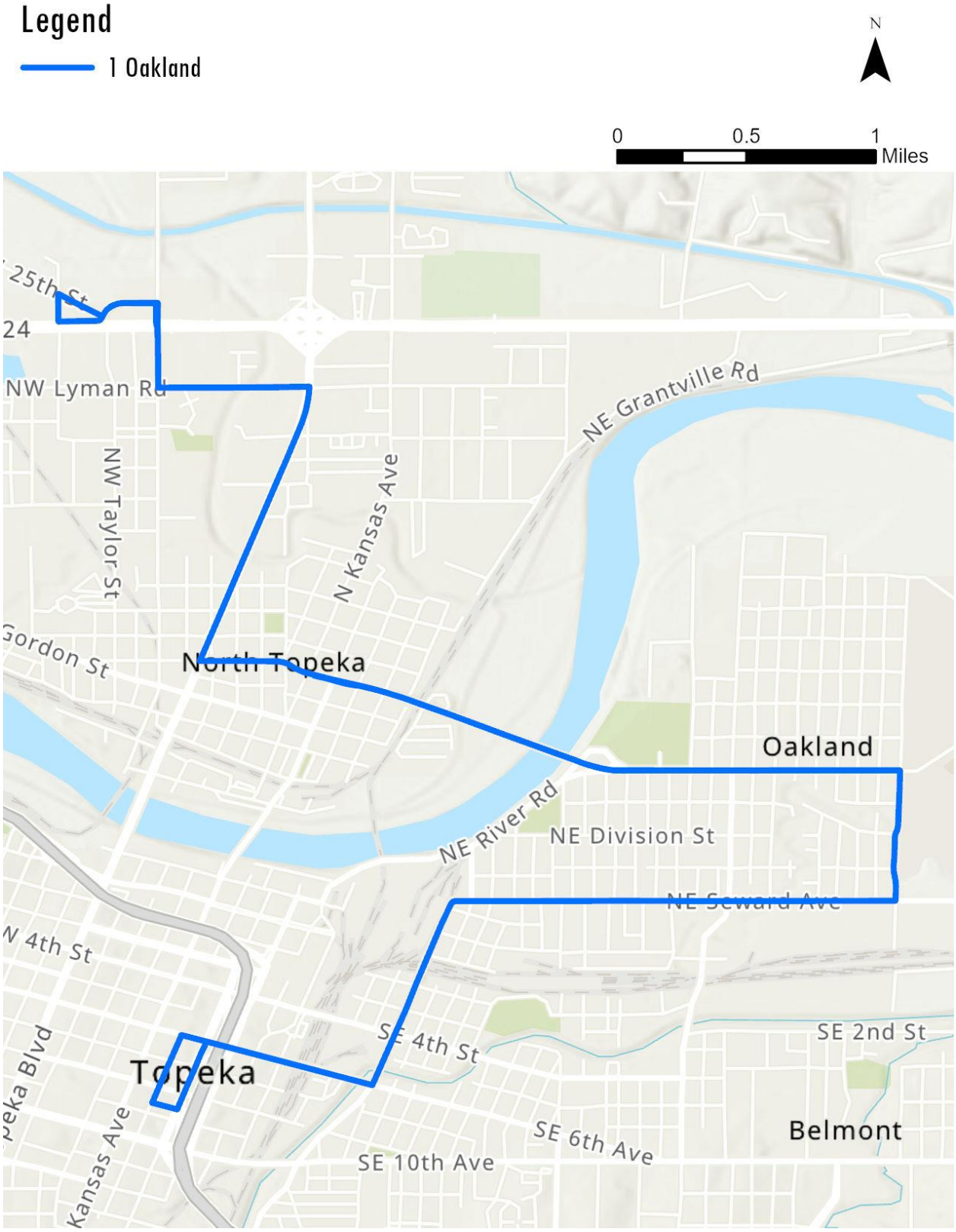
- QSS
- Dillons North
- Walmart North

- North Topeka Boulevard Corridor
- BNSF Topeka Shops
- Oakland neighborhood/Northeast Topeka

Table 11: Route 1 Oakland Characteristics

At a Glance		Oakland (Route 1)
Average Weekday Ridership		150
Rank		9th out of 12
Weekday Revenue Hours		12.3
Weekday Passengers per Revenue Hour		12.2
Rank		4th out of 12
Average Saturday Ridership		90
Rank		9th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		9.0
Rank		9th out of 12
Span of Service	Mon – Fri	6:15 AM – 6:40 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	60
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 5: Route 1 Oakland



Source: Topeka Metro, DoubleMap, May 2021

Boardings by Time of Day

Weekdays had steady boardings in the mornings and a sharp increase for the afternoon hours. The route had the most boardings by time of day, on average, around 4 PM during weekdays as shown in **Figure 6**.

For Saturdays, the boardings were more evenly distributed hour to hour as shown in **Figure 7**. The 10 AM hour had the highest number of boardings. Saturday had a high peak in mid-morning and another peak in mid-afternoon (3 PM).

Figure 6: Route 1 Weekday Boardings by Time of Day
May 2021

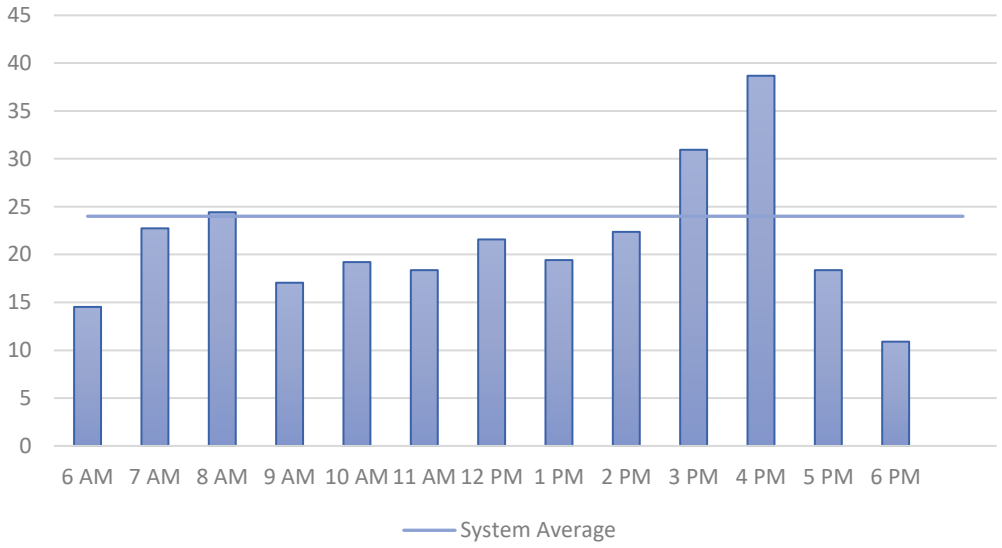
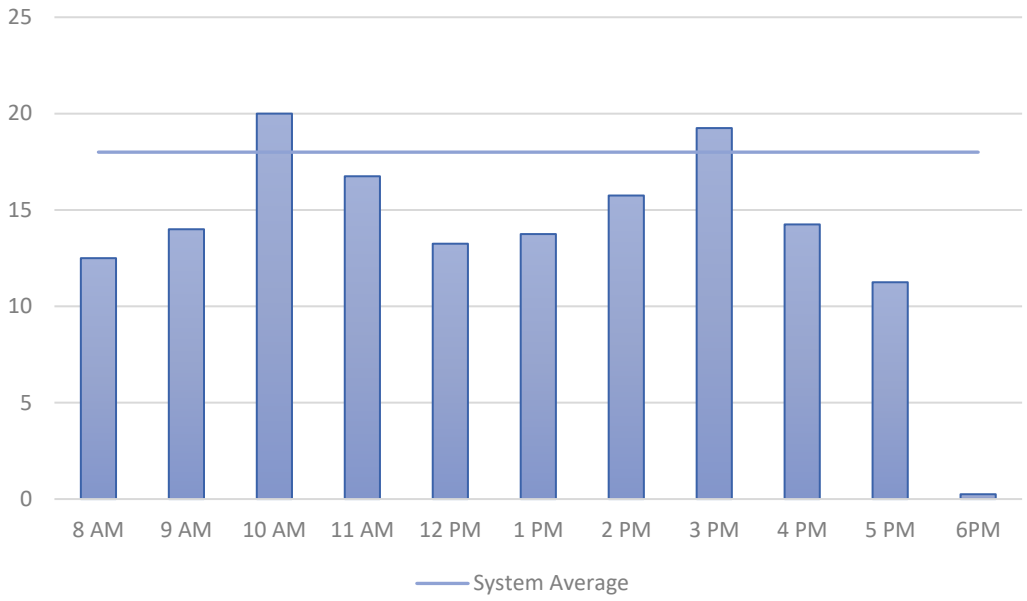


Figure 7: Route 1 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 8 and **Figure 9** show the weekdays and Saturday ridership activity for May 2021. The ridership for weekdays and Saturday have similar patterns, though weekdays have generally stronger ridership activity.

For Route 1, the greatest ridership activity on both weekdays and Saturdays was focused on the Walmart North and Dillons North shopping area on US Highway 24. Other retail hubs, such as the shopping center at the intersection of Lyman Road and Topeka Boulevard saw moderately strong ridership activity for all service days. This intersection has fast-food, pharmacies, a hardware store, strip-center retail stores, and a large thrift store (MAJ-R Thrift).

Other than the strong ridership activity at the northern retail and commercial areas, the ridership activity was fairly evenly distributed along the route. The BNSF Topeka Shops area at Branner Street and Seward Avenue saw high ridership on weekdays and less pronounced ridership on Saturdays, indicating that employees of this facility travel on Route 1 for work purposes.

As seen in most routes, downtown Topeka was a strong area of ridership activity. Downtown Topeka is the location of the QSS, where riders can transfer to other routes.

Table 12 shows the top five boarding locations for May 2021 (both inbound and outbound). Dillons North had the highest activity of all locations. The Oakland Community Center, at the intersection of Sardou Avenue and Sumner Street, also saw strong boarding activity.

Table 12: Route 1 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
Dillons North	228	Sardou @ Sumner	175
Branner @ 3rd SB	103	Morse @ Topeka WB	92
Morse @ Harrison EB	64	Seward @ Chandler EB	56
Seward @ Chandler WB	50	Sardou @ Forest WB	52
Sardou @ Forest EB	45	Seward @ Sumner	42
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
Morse @ Harrison EB	7	Dillons North	15
Topeka @ Lyman	3	Morse @ Topeka WB	6
Branner @ 6th	3	Sardou @ Sumner	5
Seward @ Chandler WB	2	Branner @ 3rd NB	5
Seward @ Lime WB	2	Seward @ Sumner	4

Source: DoubleMap, 2021

Figure 8: Route 1 Weekday Ridership

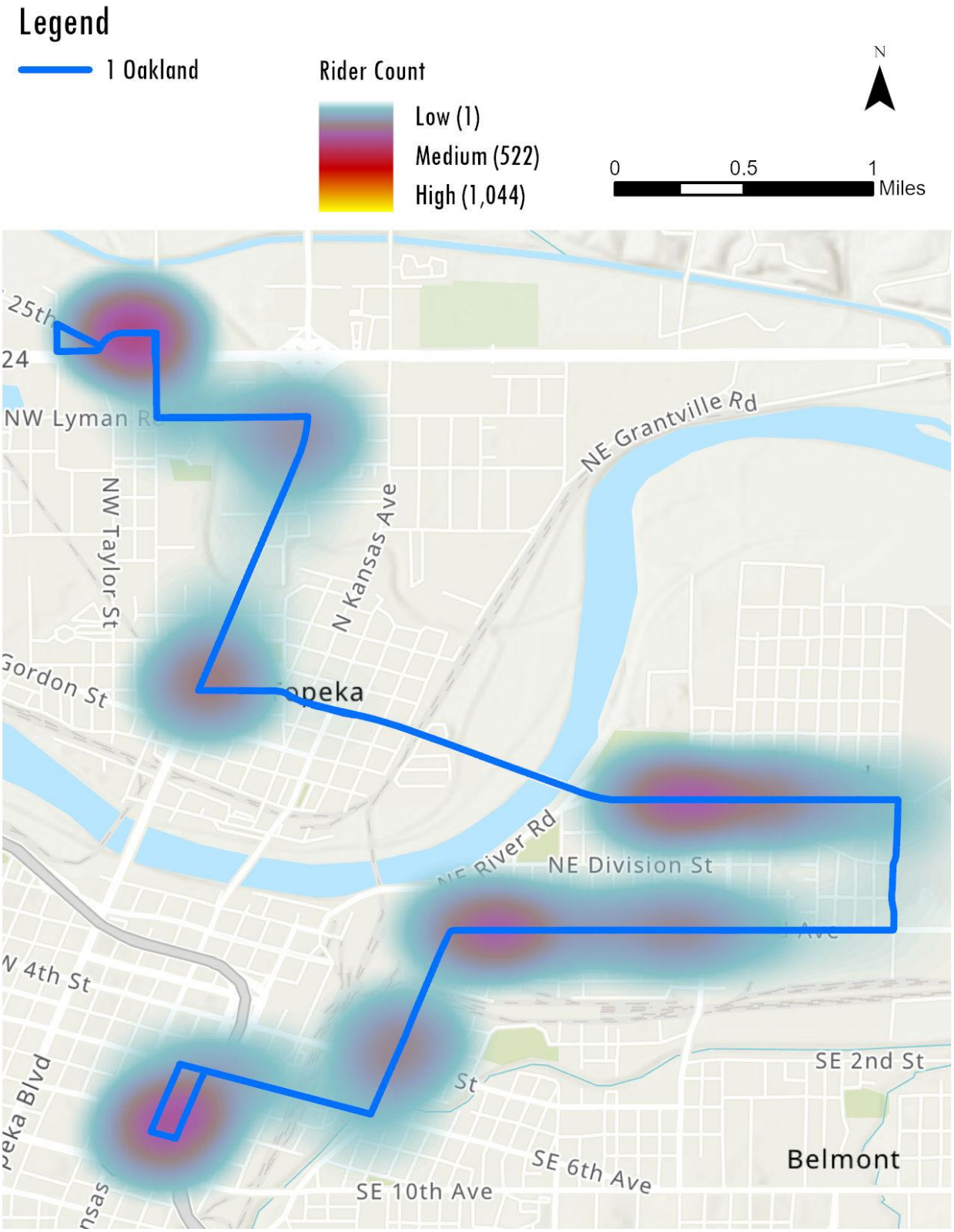
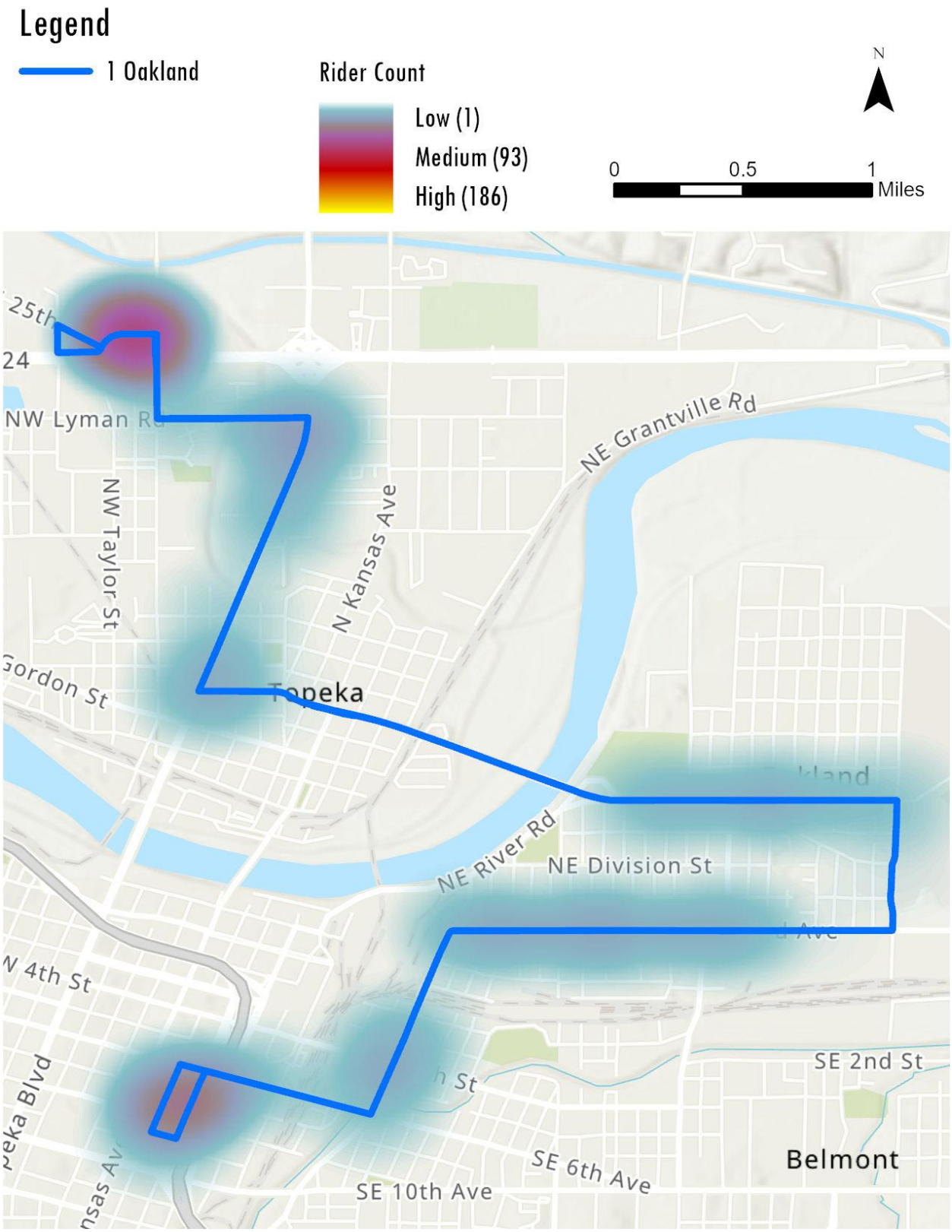


Figure 9: Route 1 Saturday Ridership



Summary

The route serves two primary markets – the Oakland neighborhood and the North Topeka Boulevard corridor to Walmart North/Dillons North. Compared to other routes, Route 1 is not in the top tier for ridership. For both weekday and Saturday ridership it ranks 9th. It ranks 4th for weekday passengers per revenue hour and 9th for Saturday passengers per revenue hour.

Despite the lower-than-average ridership Route 1 does provide important service to retail and neighborhood connections for eastern and northern Topeka. The Oakland area has a transit need, however, it should be noted that the infrastructure primarily on Seward Avenue east of Chester Avenue and on Strait Avenue consists of two-lane roads with no curbs. Sidewalks are also lacking in many areas along the route (notably Strait Avenue). It is primarily a lower density area with a mix of industrial, residential, commercial and open space. There may be an opportunity to short turn the route on Chester Avenue and serve the eastern portions of the Oakland neighborhood with microtransit or serve the entire area with microtransit. It would be important to always maintain connections to the Walmart North/Dillons North and the BNSF Topeka Shops for any changes to this route to be successful. As noted in **Table 10**, the transfer analysis found that Route 1 is top route for riders who use it to transfer to another route. This indicates that Route 1 serves an important role not just for the Oakland neighborhood but for the system at large.

Additionally, it should be noted that Route 1 and Route 2 are the only routes that serve the north Topeka neighborhood. Any changes to these routes should be viewed in tandem. Route 1, for example, could be altered to move west to connect to the Midwestern Metals facility on Lower Silver Lake Road. This would provide more job connections for Route 1 while also expanding Topeka Metro service in northern Topeka. There are areas west of Topeka Boulevard, specifically, that have the potential to become ridership generators – including the above-mentioned Midwestern Metals facility or even the Goodyear Tire manufacturing facility.

Route 2 North Kansas

Route 2 services downtown Topeka and the North Topeka neighborhood. It mainly travels north and south along Kansas Avenue, roughly between Highway 24 and the QSS, as shown in **Figure 10**. The route operates on weekdays and Saturdays and interlines with Route 17 – 17th Street at QSS. On weekdays, the route operates between 6:45 AM and 6:40 PM. On Saturdays, the route operates between 8:45 AM and 6:40 PM.

Route 2 predominately serves low-density commercial and single-family neighborhoods on the northside of Topeka. Importantly, this route provides a direct connection to the Topeka Rescue Mission, which provides shelter, meals, and other services for lower-income individuals. Approximately 2,900 residents live within a ¼ mile of the route. There are also approximately 10,300 jobs within a ¼ mile of the route – with jobs clusters in downtown Topeka, retail along North Kansas Avenue, and commercial service jobs near the intersection of Lyman Road/North Topeka Boulevard. Similar to Route 1, Route 2 also provides connections to the Walmart North/Dillons North on US Highway 24.

As shown in **Table 13**, this route serves, on average, 176 passengers during each weekday. This route ranks 4th out of 12 for average weekday ridership. Saturdays on average rank 3rd out of 12 – with 130 riders per day. It ranked slightly lower than Route 6, which had 130.4 riders per day on Saturdays. This route operates on 60-minute frequencies Monday through Saturday for both peak and off-peak periods.

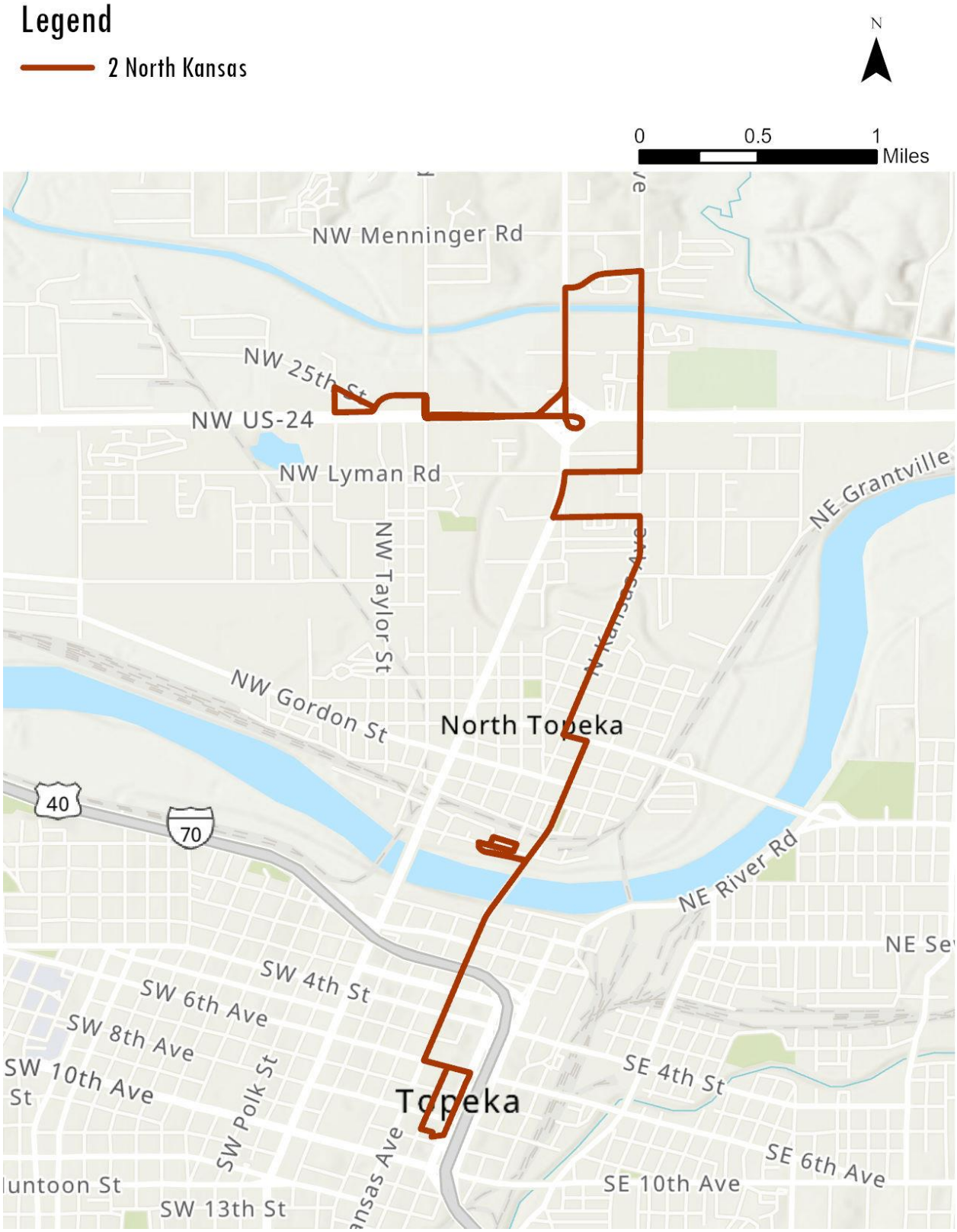
Key Destinations

- QSS
- North Topeka neighborhood
- Topeka Rescue Mission
- Topeka Commons (retail)
- Walmart North/Dillons North
- Woodland Park at Soldier Park apartments
- Garfield Park

Table 13: Route 2 North Kansas Characteristics

At a Glance		North Kansas (Route 2)
Average Weekday Ridership		176
Rank		4th out of 12
Weekday Revenue Hours		12.0
Weekday Passengers per Revenue Hour		14.7
Rank		1st out of 12
Average Saturday Ridership		130
Rank		3rd out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		13.0
Rank		3rd out of 12
Span of Service	Mon – Fri	6:45 AM – 6:40 PM
	Sat	8:45 AM – 6:40 PM
Peak Frequency	Mon – Fri	60
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 10: Route 2 North Kansas



Boardings by Time of Day

Weekday service had a steady number of boardings throughout the day. The peak boardings occurred around 3 PM as shown in **Figure 11**.

Saturday had consistent boardings throughout the day from 7 AM to 5 PM with the highest boarding activity occurring at 2 PM as shown in **Figure 12**. The data shows that Route 2 served a variety of needs throughout the day (i.e., not just one purpose or primary destination).

Figure 11: Route 2 Weekday Boardings by Time of Day
May 2021

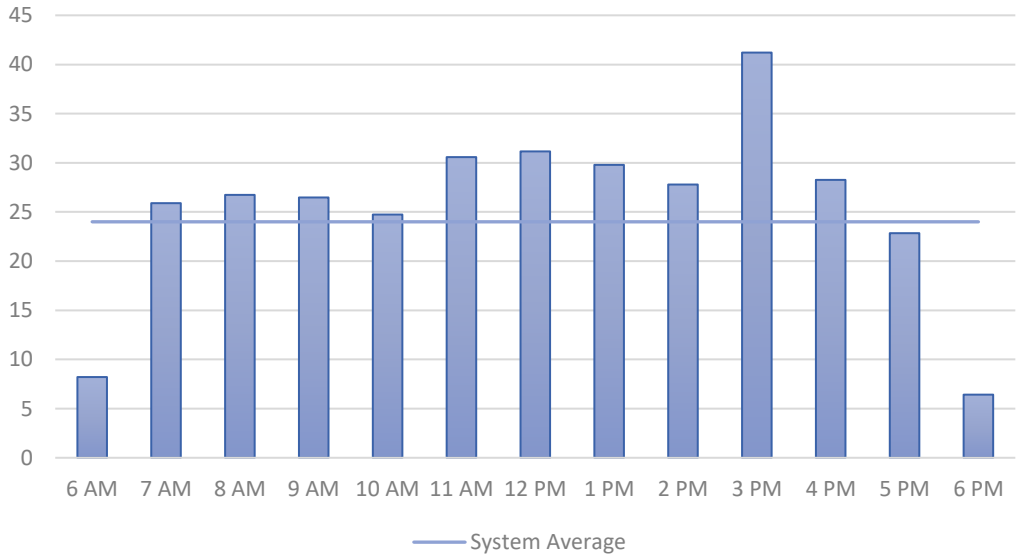
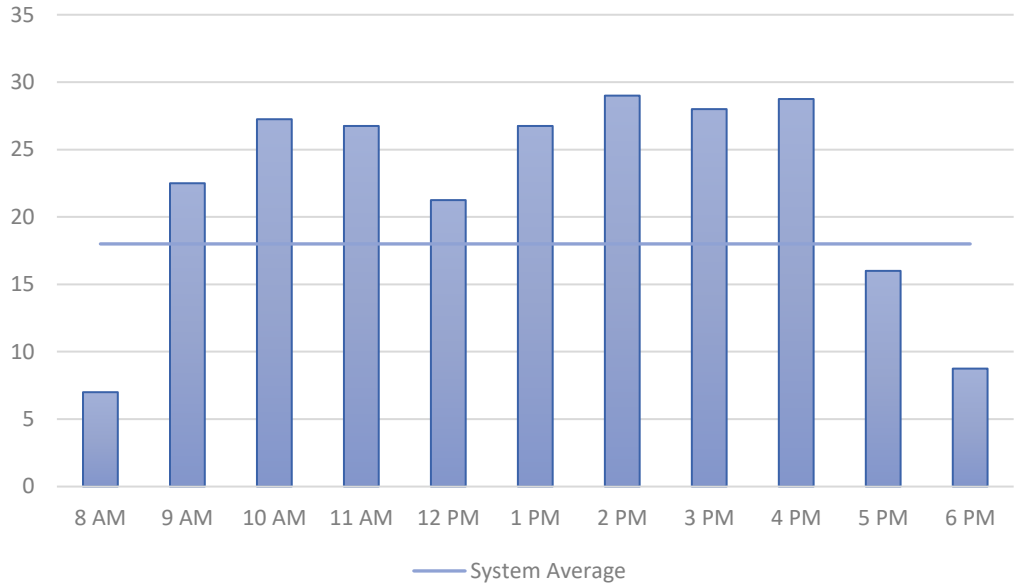


Figure 12: Route 2 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 13 and **Figure 14** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday have similar patterns, though the weekday has stronger ridership activity.

Route 2 is a strong performing route in terms of average weekday and Saturday ridership. Route 2 had similar ridership patterns to Route 1, with high ridership activity at the Walmart North/Dillons North retail area and the QSS in downtown Topeka. Route 2, however, had very strong ridership activity around the Topeka Rescue Mission. For both weekdays and Saturdays, the Topeka Rescue Mission was by far the strongest bus stop, indicating that the Topeka Rescue Mission is a vital component of Route 2. Outside of the above-mentioned ridership locations, the ridership along Route 2 was fairly light.

Table 14 shows the top five boarding locations for May 2021 (both inbound and outbound). The Topeka Rescue Mission at the intersection of Kansas Avenue and Curtis Street had the most activity for both inbound and outbound on weekdays. The Dillons North and Walmart North also had strong boarding activity.

Table 14: Route 2 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
Kansas @ Curtis	427	Kansas @ Curtis	453
Kansas @ 2nd SB	133	Walmart North	261
Independence @ Kansas EB	102	Independence @ Kansas WB	201
Quincy @ Laurent SB	65	Dillons North	129
Topeka @ Lyman	44	Lyman @ Topeka USPS EB	101
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
Kansas @ Curtis	40	Walmart North	25
Independence @ Kansas EB	10	Kansas @ Curtis	22
Quincy @ Laurent SB	3	Dillons North	17
Topeka @ Lyman	3	Independence @ Kansas WB	11
Lyman @ Topeka USPS WB	3	Lyman @ Topeka USPS EB	9

Source: DoubleMap, 2021

Figure 13: Route 2 Weekday Ridership

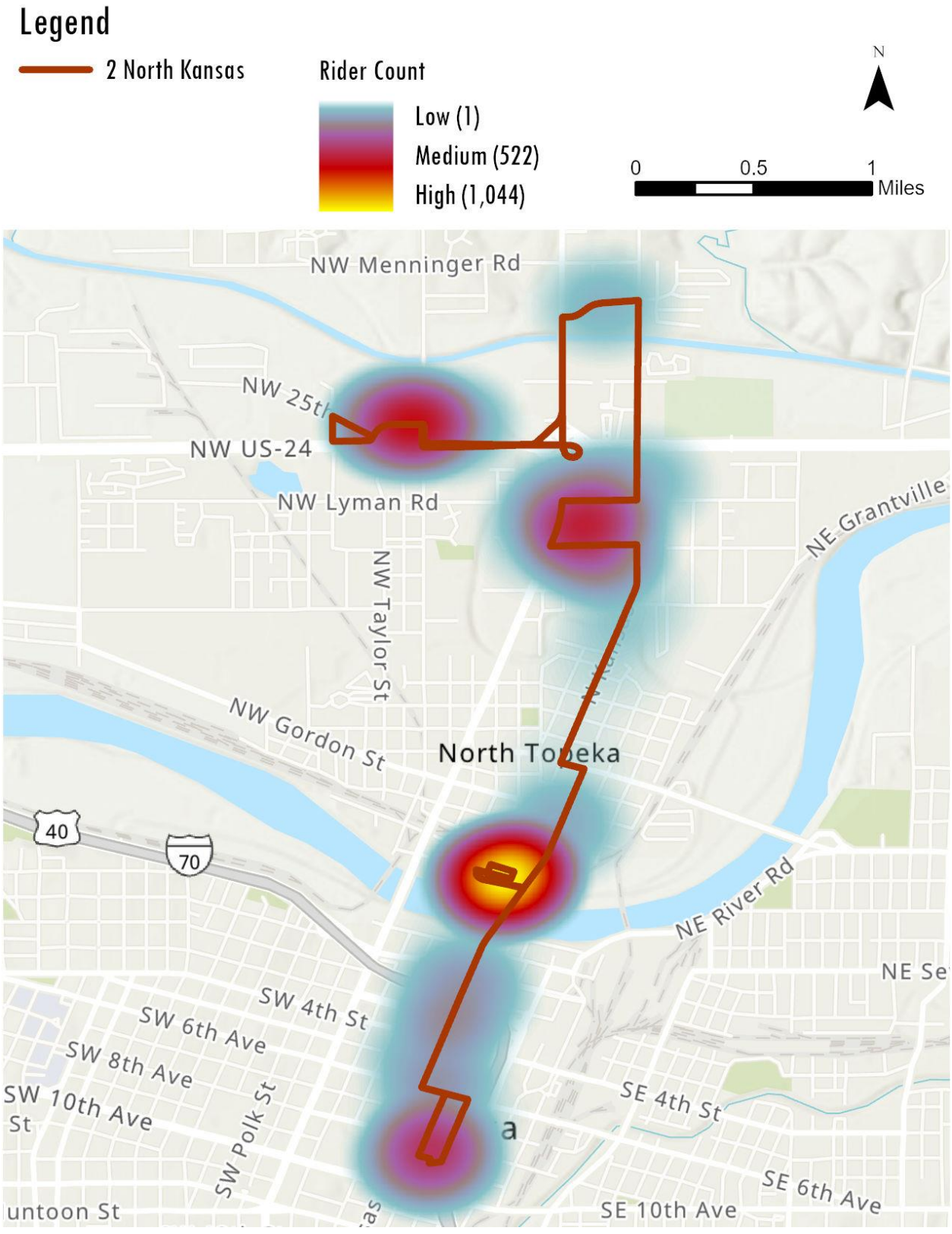
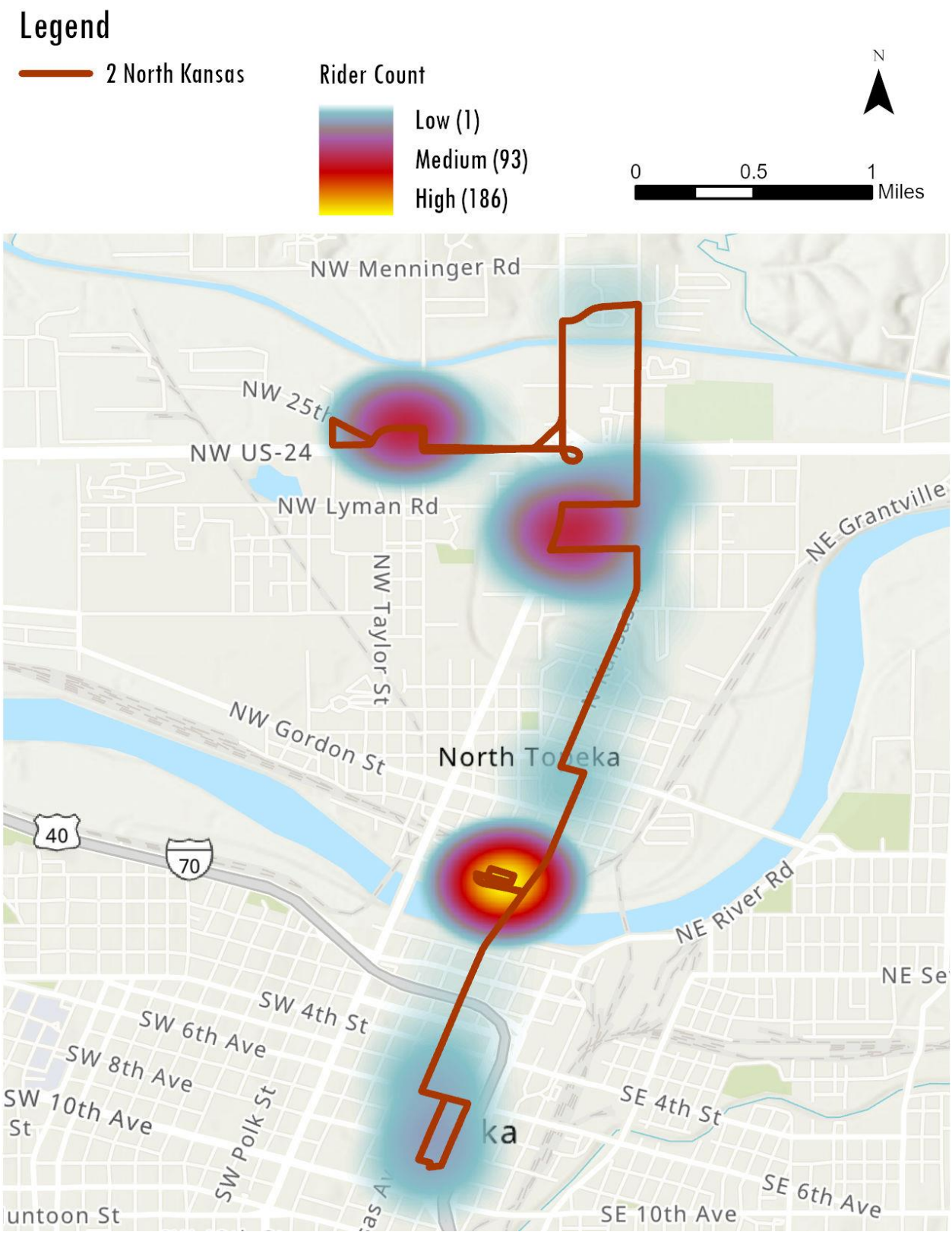


Figure 14: Route 2 Saturday Ridership



Summary

Route 2 is strong performer as it ranks in the top third for ridership. The route benefits from having the major transit generators including the Topeka Rescue Mission, Walmart North, and Dillons North. The ridership distribution is not evenly dispersed throughout the route with relatively low ridership outside the primary transit generators. This may indicate that riders transfer to the Route 2 for access to the Topeka Rescue Mission and shopping trips. The generally high ridership of the route indicates that the Topeka Rescue Mission is an integral part of Route 2 and likely to the Topeka Metro system at large.

Route 3 East 6th

Route 3 serves East Topeka, connecting the QSS in downtown Topeka to the Reser's Fine Foods – Salad Plant at the intersection of 6th Avenue and Croco Road. It primarily travels along east 6th Avenue, as shown in **Figure 15**. The route operates on weekdays and Saturdays. On weekdays, the route operates between 6:15 AM and 6:40 PM. On Saturday, the route operates between 8:15 AM and 6:10 PM. This route interlines with Route 6 providing a one-seat ride along the entire 6th Street corridor.

Route 3 predominately serves low-density commercial, single-family neighborhoods, and industrial facilities on the eastside of Topeka. Approximately 3,800 residents live within a ¼ mile of the route. There are also approximately 11,100 jobs within a ¼ mile of the route – with jobs clusters in downtown Topeka and direct connections to three food processing facilities – Reser's Fine Foods Shipping Facility, Reser's Fine Foods Potato Plant, and Reser's Fine Foods Salad Plant. This route also provides connections to a Topeka Housing Authority development on 10th Street.

As shown in **Table 15**, this route serves, on average, 155 passengers during each weekday. This route ranks 8th out of 12 for average weekday ridership. Saturdays on average have lower ridership compared to the other routes at 11th out of 12 – with 64 riders per day. This route operates on 30-minute frequencies during weekdays for all periods (off-peak and peak). For Saturdays, the route also operates on 30-minute frequencies during all periods (off-peak and peak).

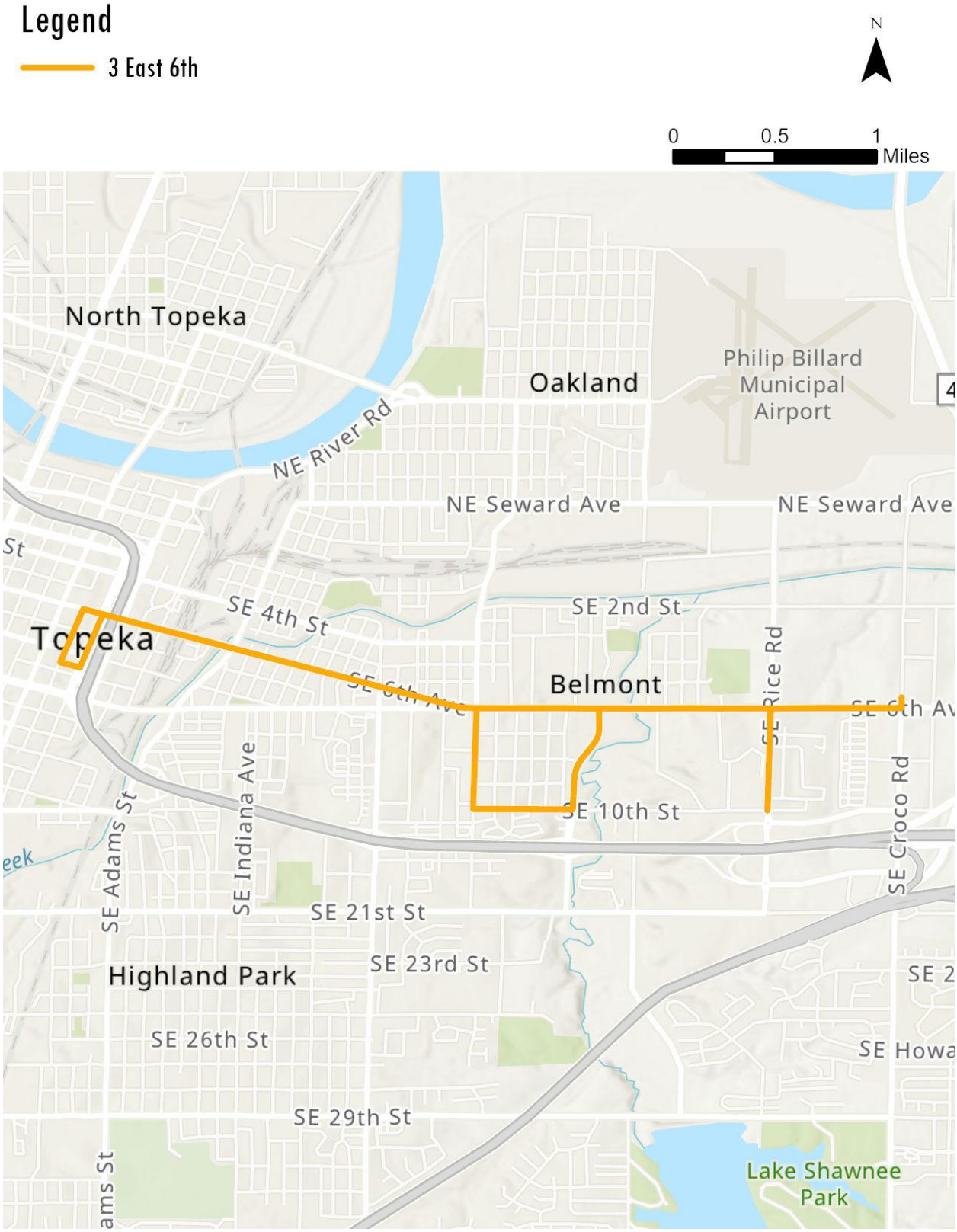
Key Destinations

- QSS
- Reser's Fine Foods – Potato
- Reser's Fine Foods - Shipping
- Reser's Fine Foods - Salad Plant

Table 15: Route 3 East 6th Characteristics

At a Glance		East 6th (Route 3)
Average Weekday Ridership		155
Rank		8th out of 12
Weekday Revenue Hours		12.3
Weekday Passengers per Revenue Hour		12.7
Rank		3rd out of 12
Average Saturday Ridership		64
Rank		11th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		6.4
Rank		11th out of 12
Span of Service	Mon – Fri	6:15 AM – 6:40 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	30
	Sat	30
Off-Peak Frequency	Mon – Fri	30
	Sat	30

Figure 15: Route 3 East 6th



Boardings by Time of Day

Weekdays had steady boardings throughout the day, however, late afternoons had a pronounced increase as shown in **Figure 16**. 3 PM and 4 PM had the highest boardings each day, on average. This route serves many food processing facilities in east Topeka, which may account for the late afternoon peak in boardings as shifts transition from day to evening.

For Saturday, the boardings steadily increased for late afternoon, similar to weekday patterns as shown in **Figure 17**.

Figure 16: Route 3 Weekday Boardings by Time of Day
May 2021

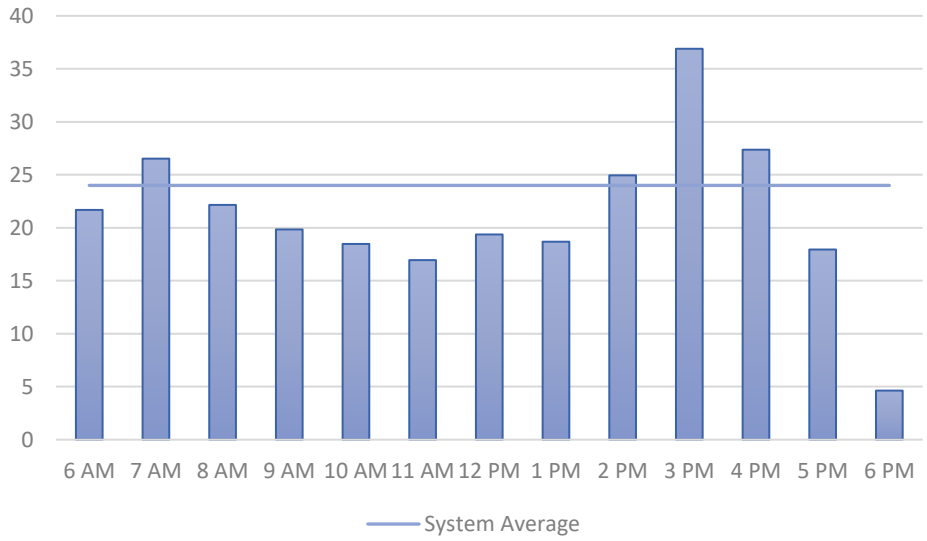
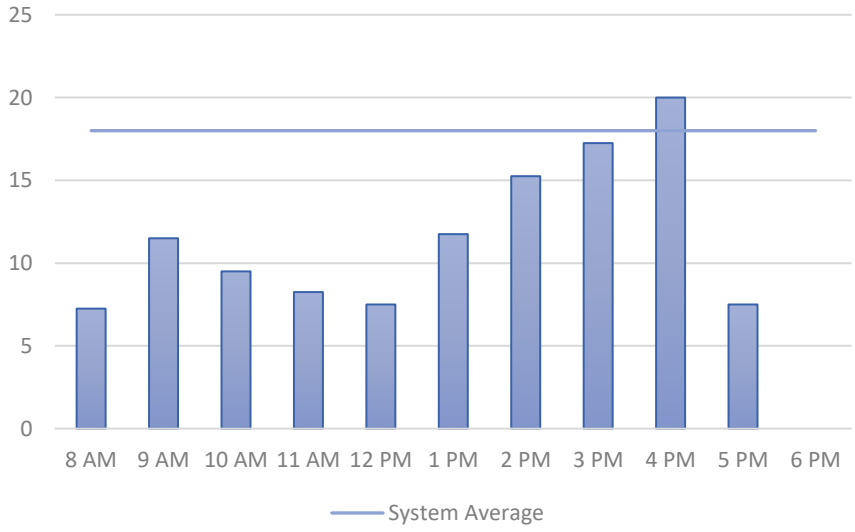


Figure 17: Route 3 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 18 and **Figure 19** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday have similar patterns.

For Route 3, the highest ridership activity on both weekdays and Saturdays was found in downtown Topeka at the QSS.

Route 3's average weekday ridership ranked 8th and Saturday ridership ranked 11th. The high activity at the QSS indicates that many riders on Route 3 transfer to other routes to get to their final destination. The transfer survey found that riders on Route 3 transfer to Routes 1, 6 and 10.

Outside of the QSS downtown, ridership activity tended to occur at employment centers, notably the three Reser's Fine Foods facilities. The Topeka Housing Authority development on 10th Street was also a hub of ridership activity on weekdays and Saturdays.

Table 16 shows the top five boarding locations for May 2021 (both inbound and outbound). The intersection of 6th Avenue and Deer Creek Trail had the highest boarding activity. This is the location of the Reser's Fine Foods facilities. This indicates that employees at Reser's are frequent users of Route 3.

Table 16: Route 3 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
6th @ Deer Creek WB	75	6th @ Deer Creek EB	220
6th @ Golden WB	58	Croco @ 6th	177
6th @ Jefferson WB	35	10th @ Highland	97
Branner @ Branner	28	10th @ Carnahan	79
10th @ Indiana WB	23	6th @ Jefferson EB	72
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
6th @ Golden WB	8	6th @ Deer Creek EB	25
6th @ Deer Creek WB	7	Croco @ 6th	11
Monroe @ 7th	4	6th @ Golden EB	5
Branner @ Branner	4	6th @ Jefferson EB	4
10th @ Liberty WB	4	10th @ Carnahan	4

Figure 18: Route 3 Weekday Ridership

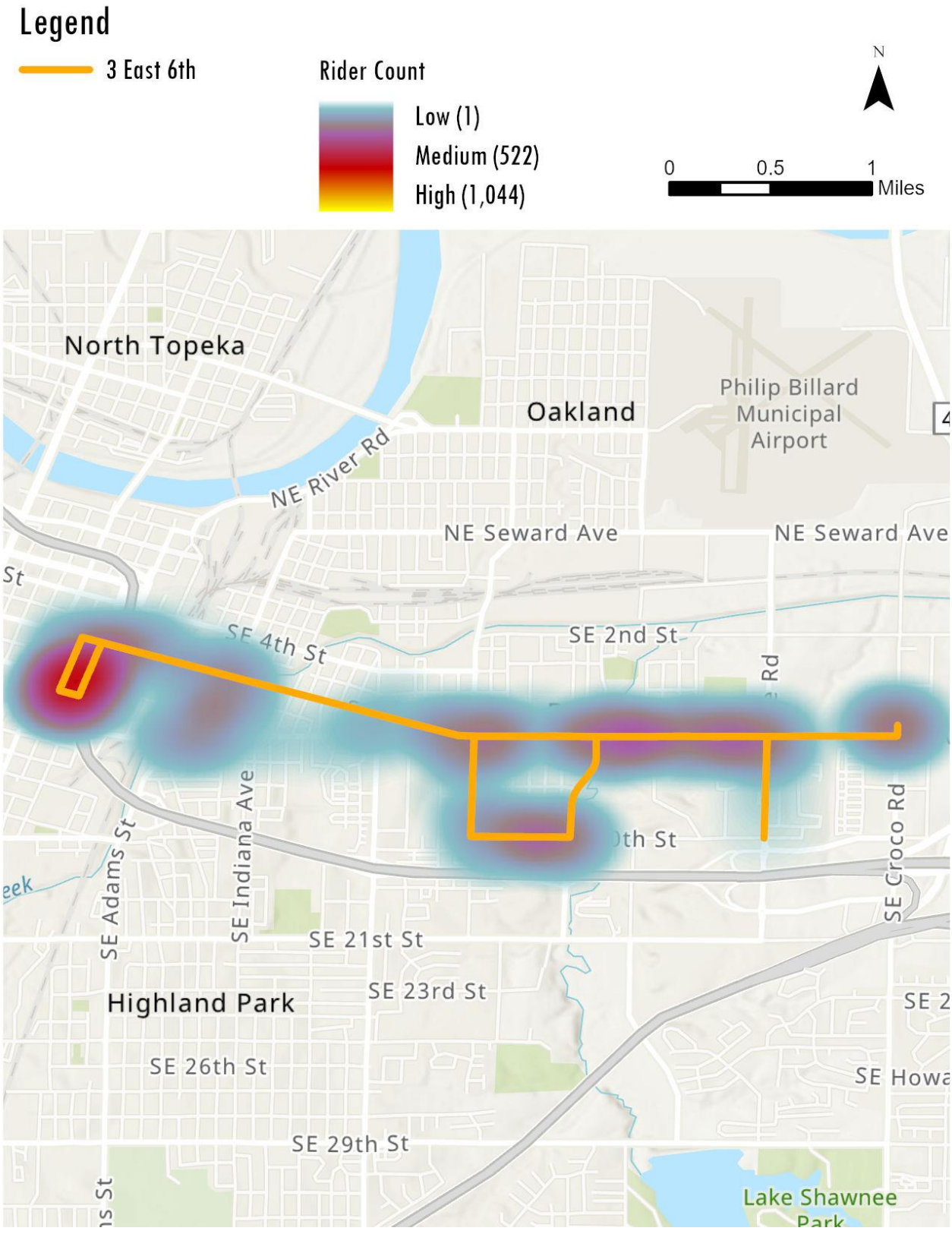
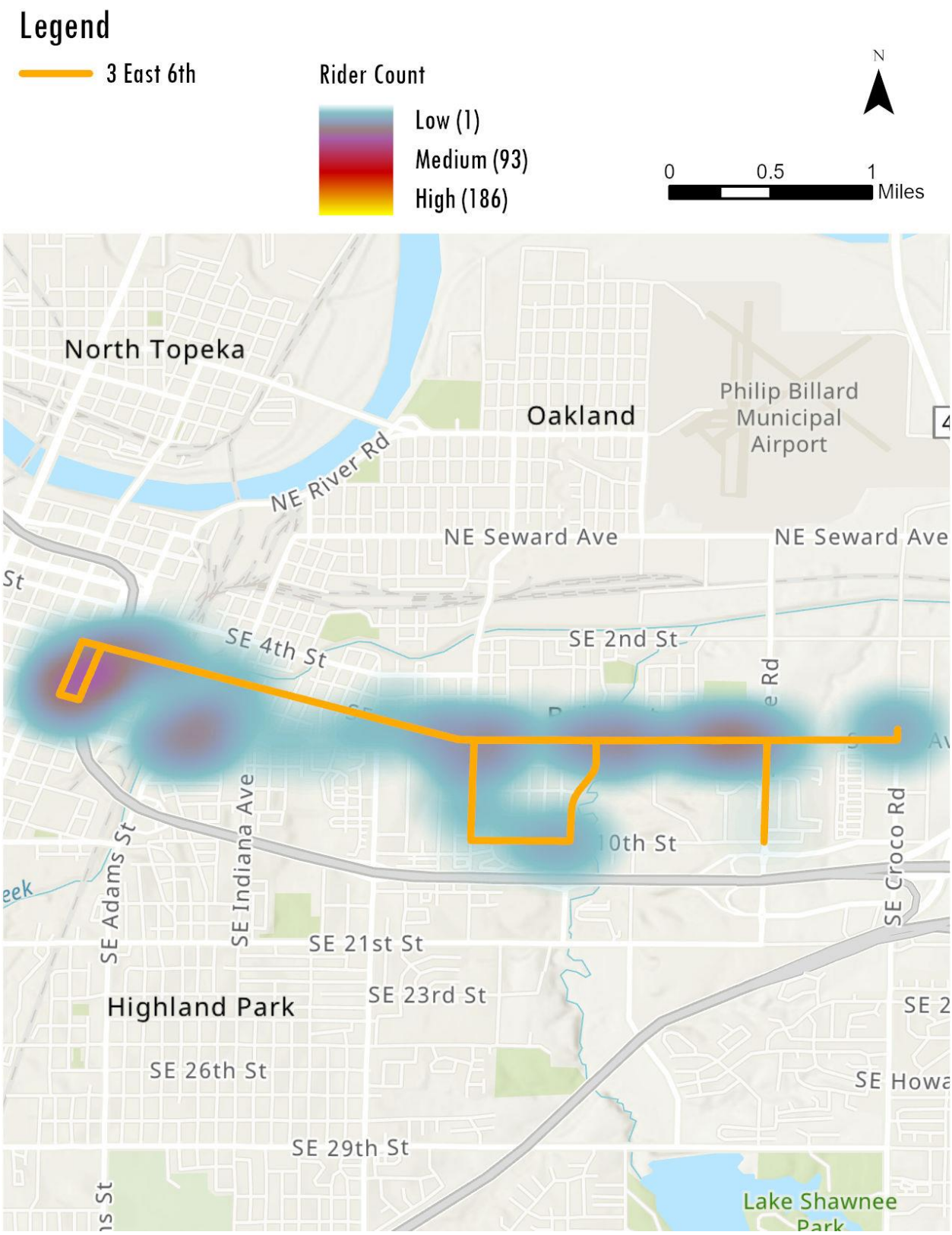


Figure 19: Route 3 Saturday Ridership



Summary

Route 3 ranks in the bottom third among all twelve routes in terms of both weekday and Saturday ridership, however, the route provides service to key transit dependent populations in east Topeka. In addition, Route 3 operates 30-minute frequencies during all periods – weekdays and Saturdays. The route has high productivity during the week (passengers per revenue is ranked 3rd out of 12), however, Saturday productivity is ranked 11th out of 12.

The route serves two purposes – providing mobility service to the residential areas in east Topeka including a large minority population (approximately 52% of the population within ¼ of the route) and providing connections to workforce trips. The route maintains a relatively high frequency utilizing one bus and serves as a key mobility connection to vulnerable communities.

Route 4 California

Route 4 serves southeast Topeka including the Highland Park and Highland Crest neighborhoods, as shown in **Figure 20**. This route also serves the Walmart East and connects to Topeka Metro's Flex Zone, a general public curb-to-curb transit service located in the eastern areas of Topeka, generally north of the Kansas Turnpike and south of US 40. The route operates on weekdays and Saturdays. On weekdays, the route operates between 5:41 AM and 6:40 PM. On Saturday, the route operates between 8:15 AM and 6:10 PM.

Route 4 predominately serves single-family neighborhoods, retail along California Avenue, and educational facilities on the southeast side of Topeka. Approximately 7,500 residents live within a ¼ mile of the route. There are also approximately 11,800 jobs within a ¼ mile of the route – with jobs clusters in downtown Topeka and retail clusters on California Avenue, between 25th Street and 29th Street.

As shown in **Table 17**, this route serves, on average, 175 passengers during each weekday. This route ranks 5th out of 12 for average weekday ridership. The route ranks 6th out of 12 for Saturday ridership.

This route operates 30-minute frequencies during peak weekday hours. For off-peak weekdays and for all periods on Saturdays, the route operates 60-minute frequencies.

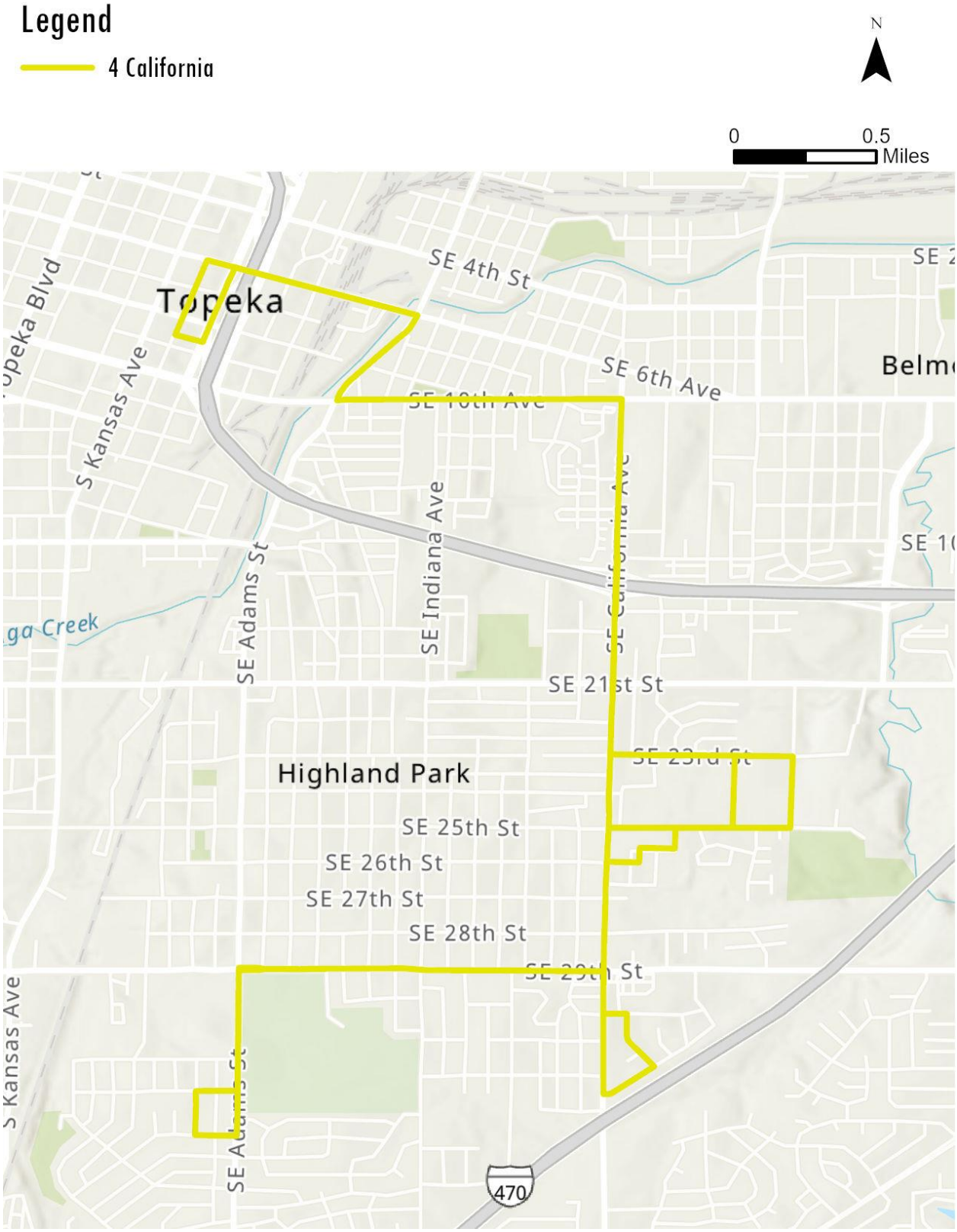
Key Destinations

- QSS
- Highland Park High School
- Walmart East
- Highland Crest neighborhood
- California Crossing retail center
- Community Resource Council's (CRC) Avondale East CARE Center

Table 17: Route 4 California Characteristics

At a Glance		California (Route 4)
Average Weekday Ridership		175
Rank		5th out of 12
Weekday Revenue Hours		20.0
Weekday Passengers per Revenue Hour		8.8
Rank		11th out of 12
Average Saturday Ridership		115
Rank		6th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		11.5
Rank		6th out of 12
Span of Service	Mon – Fri	5:41 AM – 6:40 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	30
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 20: Route 4 California



Boardings by Time of Day

Weekdays had two peaks of boarding activity – early morning (7 AM) and mid-afternoon (mostly 3 PM). This route serves the Highland Park High School, which may account for the increase in boardings at 3 PM (i.e., school day ending) as shown in **Figure 21**. The transfer survey results show riders use the route for school, including to Highland Park High School.

For Saturday, Route 4 had steady boardings throughout the day as shown in **Figure 22**. At 4 PM there were modest increases compared to the rest of the day.

Figure 21: Route 4 Weekday Boardings by Time of Day
May 2021

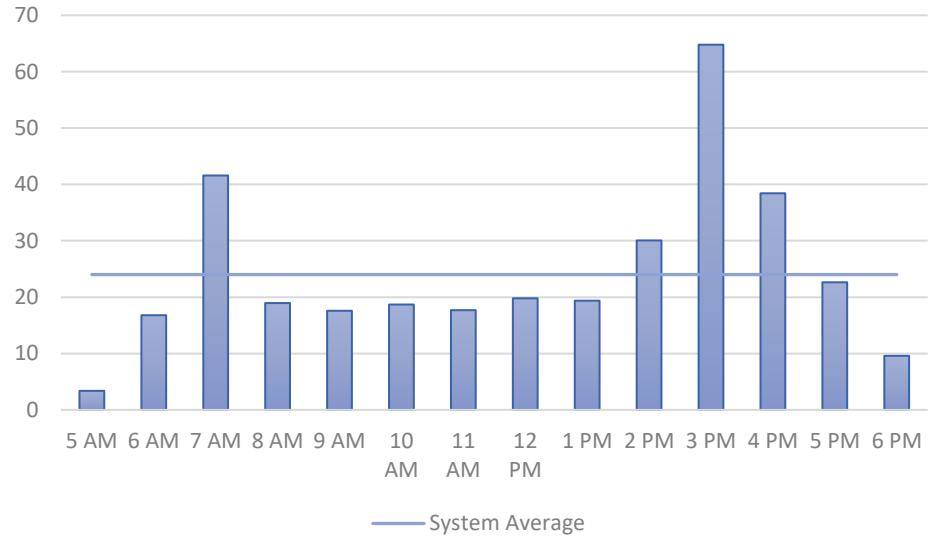
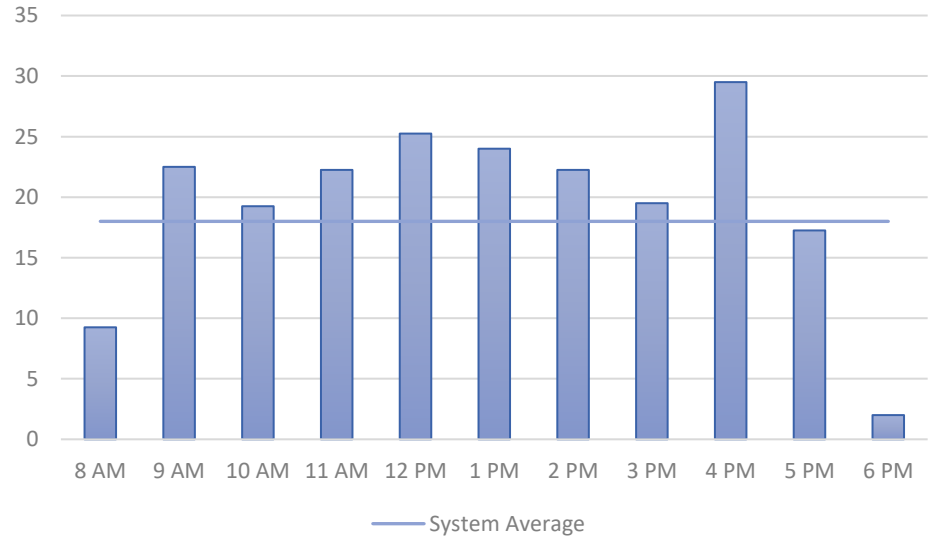


Figure 22: Route 4 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 23 and **Figure 24** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday have similar patterns and are almost identical.

For Route 4, the highest boarding activity for all days was found at the Walmart East at the intersection of 25th Street and California Avenue. The primary transit generators on the route include the Dillons located just south of the Walmart East along California, the Topeka Housing Authority development and the Highland Park Townhome Apartments. Outside of the Walmart East, the ridership activity along this route was low and sparse. As stated earlier, Route 4 is a moderately strong performer in terms of average ridership.

The CRC Avondale East CARE Center is located at the terminus of Route 4 (near intersection of Adams Street and Golf Park Boulevard). This non-profit center provides services to the community, including a food pantry and a reduced fare program in cooperation with Topeka Metro. This facility saw moderate ridership for both weekdays and Saturdays.

Table 18 reports the top five boarding locations for May 2021 (both inbound and outbound). The Walmart East generated the most boardings for weekdays and Saturdays. The CRC Avondale East CARE Center is also a strong boarding location for both weekdays and Saturdays.

Table 18: Route 4 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
Walmart East	196	Walmart East	214
33rd @ Adams	94	California @ 24th	66
Colfax @ Avondale	92	California @ 29th SB OB	66
California @ 29th NB	76	6th @ Jefferson EB	39
California @ 11th NB	55	25th @ HPHS	36
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
Walmart East	36	Walmart East	36
California @ 29th NB	12	California @ 29th SB OB	17
25th @ Burr	9	California @ 11th SB	7
10th @ Indiana WB	8	25th @ Burr	6
Colfax @ Avondale	7	California @ 20th SB	5

Source: DoubleMap, 2021

Figure 23: Route 4 Weekday Ridership

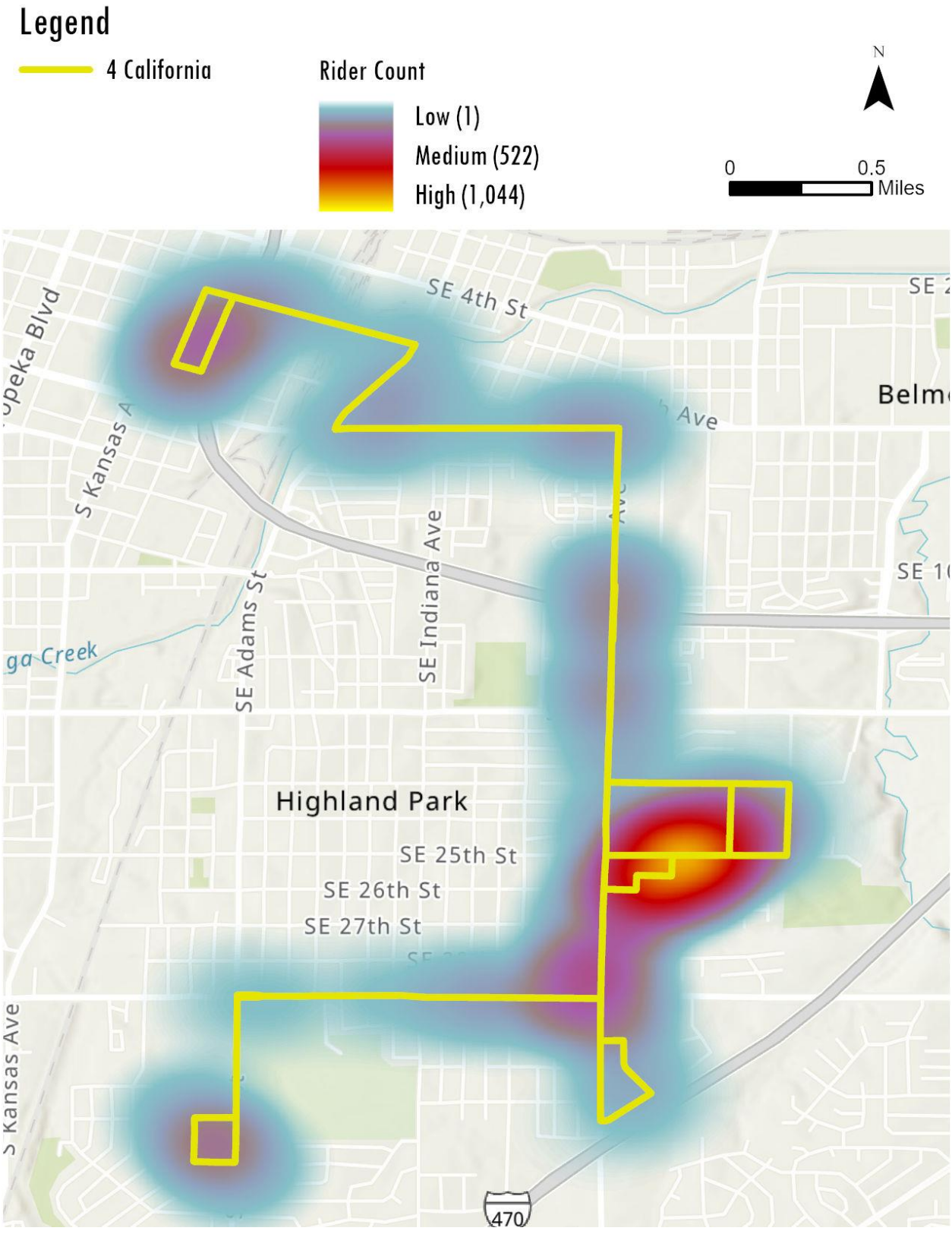
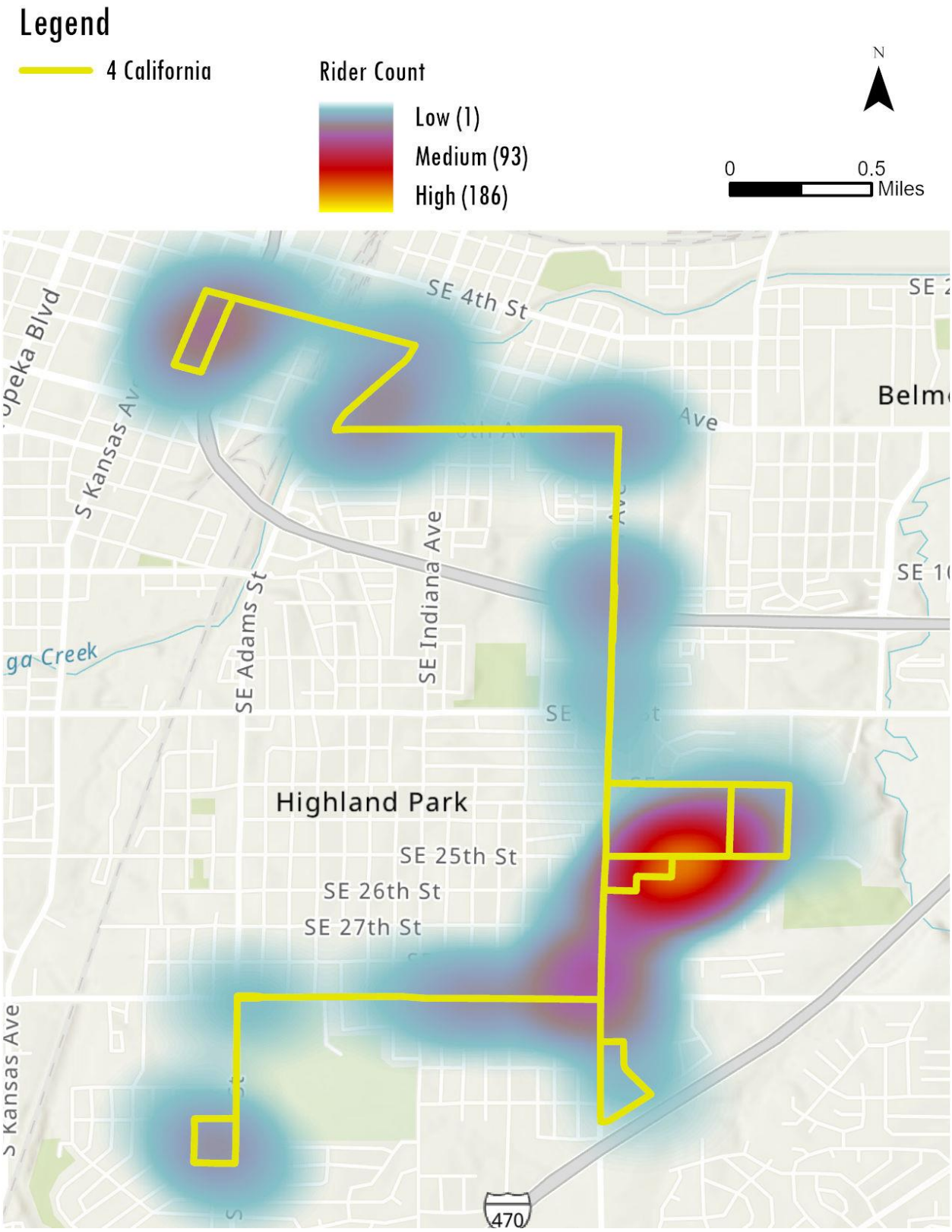


Figure 24: Route 4 Saturday Ridership



Summary

Route 4 serves key transit generators in southeast Topeka, notably the Walmart East and Highland Park High School. It also is the only route with direct connections to the Flex demand response zone in southeast Topeka. The route serves minority and lower income populations in the Highland Park and Avondale neighborhoods and provides important connections to retail locations in southeast Topeka along California Avenue.

There is low ridership on both weekdays and Saturdays on Route 4 where it travels down Turnpike Avenue, Swygart Street, and 30th Street before continuing the trip along 29th Street. This area is low density and single-family residential. This low ridership area could be removed from the route and other service delivery methods could be evaluated, such as extending the Flex demand response zone to this area. The Flex boundaries stop a few hundred feet away from this neighborhood. The Flex could be realigned so its western boundaries are California Avenue. The western portion of the route may also be a candidate for microtransit or other demand response service due to the low ridership areas primarily west of California.

Route 5 Indiana

Route 5 serves the southwestern and southern areas of Topeka. The route travels mainly down Indiana Avenue and then east/west on 37th Street, as shown in **Figure 25**. In general, this route has lower weekday and Saturday average boardings than most other routes.

Route 5 predominately serves single-family neighborhoods on the eastern and southern areas of Topeka. It also provides connections to the Walmart South and commercial industrial nodes in south Topeka. Approximately 12,200 residents live within a ¼ mile of the route. There are also approximately 10,200 jobs within a ¼ mile of the route – with jobs clusters in downtown Topeka, retail at the intersection of Topeka Boulevard and 37th Street, and light industrial on 42nd Street (the southern end of the route).

As shown in **Table 19**, this route serves, on average, 126 passengers during each weekday. This route ranks last for average weekday boardings. Saturdays on average also rank poorly at 10th out of 12 – with 71 riders per day. This route operates on 60-minute frequencies Monday through Saturday for both peak and off-peak periods.

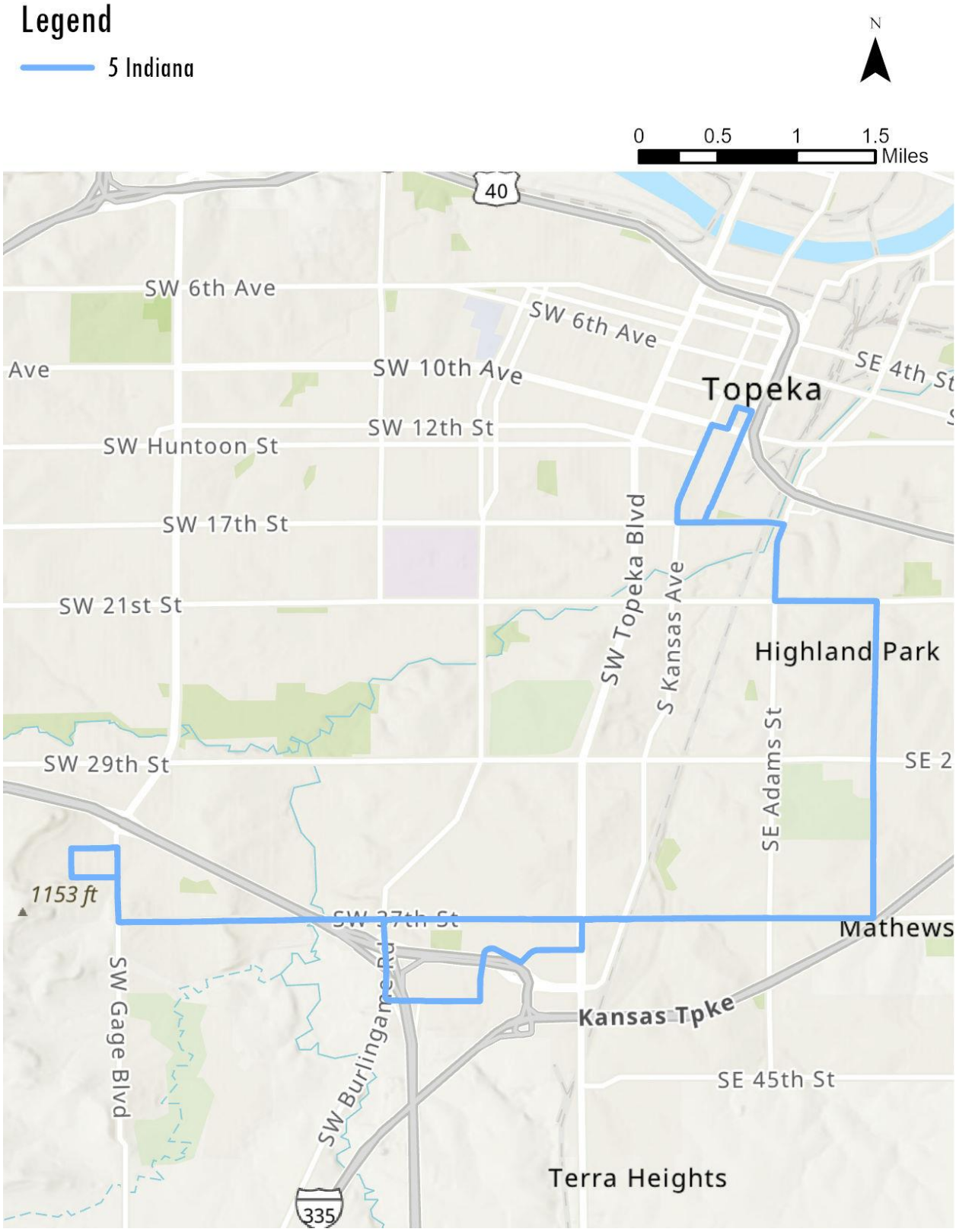
Key Destinations

- QSS
- Highland Park neighborhood
- Mainline Printing (commercial facility)
- Walmart South
- Topeka ARC (TARC) Industries/Employment Services

Table 19: Route 5 Indiana Characteristics

At a Glance		Indiana (Route 5)
Average Weekday Ridership		126
Rank		12th out of 12
Weekday Revenue Hours		12.0
Weekday Passengers per Revenue Hour		10.5
Rank		6th out of 12
Average Saturday Ridership		71
Rank		10th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		7.1
Rank		10th out of 12
Span of Service	Mon – Fri	6:15 AM – 6:10 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	60
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 25: Route 5 Indiana



Boardings by Time of Day

Weekdays had steady boardings throughout the day, but morning and afternoon peaks were apparent. Morning had a peak around 7 AM and the afternoon had the highest peak of the day at 3 PM as shown in **Figure 26**.

Saturday boardings were fairly steady throughout the day, however, 11 AM had a slight dip compared to the rest of the day as shown in **Figure 27**.

Figure 26: Route 5 Weekday Boardings by Time of Day
May 2021

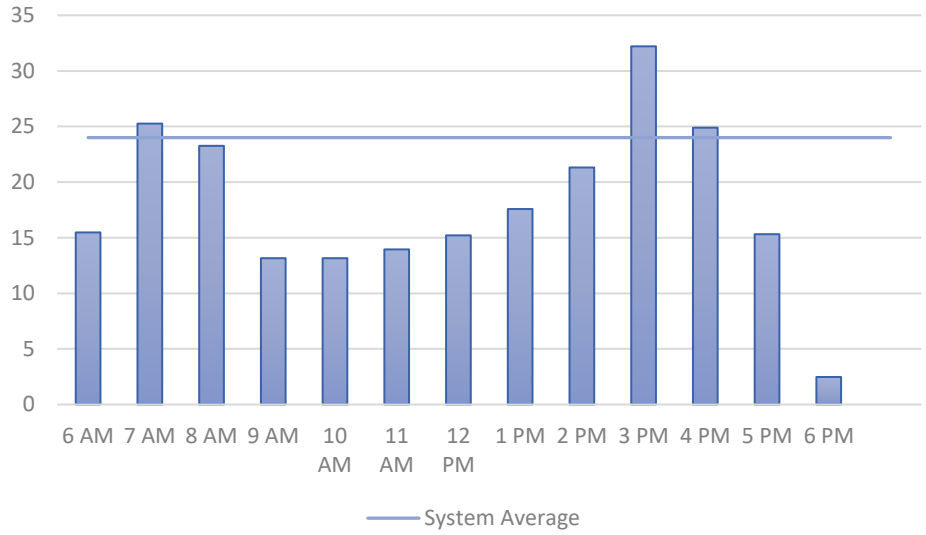
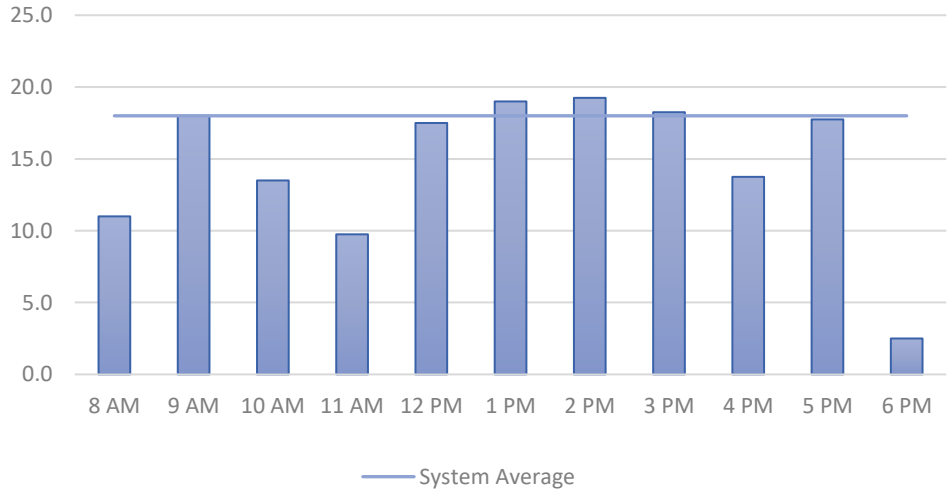


Figure 27: Route 5 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 28 and **Figure 29** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday are similar, though Saturday is notably less pronounced in the eastern sections of the route.

Route 5 is not a strong performing route, it ranked last for average weekday ridership and near the bottom for Saturday average ridership. As with many routes, the highest ridership for Route 5 occurred in downtown Topeka and the QSS.

Retail clusters east of Burlingame Road near the Walmart South were fairly strong for both weekdays and Saturdays. Notably, as the route travels west the ridership decreases sharply after passing Burlingame Road.

The TARC Industries/Employment Center located on 42nd Street also saw moderately high ridership compared to the rest of the route. This facility is a non-profit production facility that provides work opportunities for persons with developmental disabilities.

The Light of the World Christian Church at the intersection of Gage Boulevard and 33rd Terrace (the very western terminus of Route 5) had moderate ridership activity when compared to most stops overall, especially between Burlingame Road and the church.

Table 20 reports the top five boarding locations for May 2021 (both inbound and outbound). The Walmart South generated the most outbound activity for weekdays and Saturdays.

Table 20: Route 5 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
37th @ Landon Nature Trail EB	54	Walmart South	124
33rd @ Arrowhead	52	37th @ Landon Nature Trail WB	83
37th @ Plass (Park Ct.)	46	21st @ Washington EB	55
Adams @ 21st	43	TARC	54
21st @ Washington WB	39	Indiana @ 34th SB	45
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
37th @ Plass (Park Ct.)	6	Walmart South	12
21st @ Washington WB	5	Adams @ 19th SB	5
Indiana @ 25th NB	4	Indiana @ 25th SB	4
Adams @ 21st	4	21st @ Hudson EB	4
37th @ Evans	3	33rd @ Arrowhead	4

Source: DoubleMap, 2021

Figure 28: Route 5 Weekday Ridership

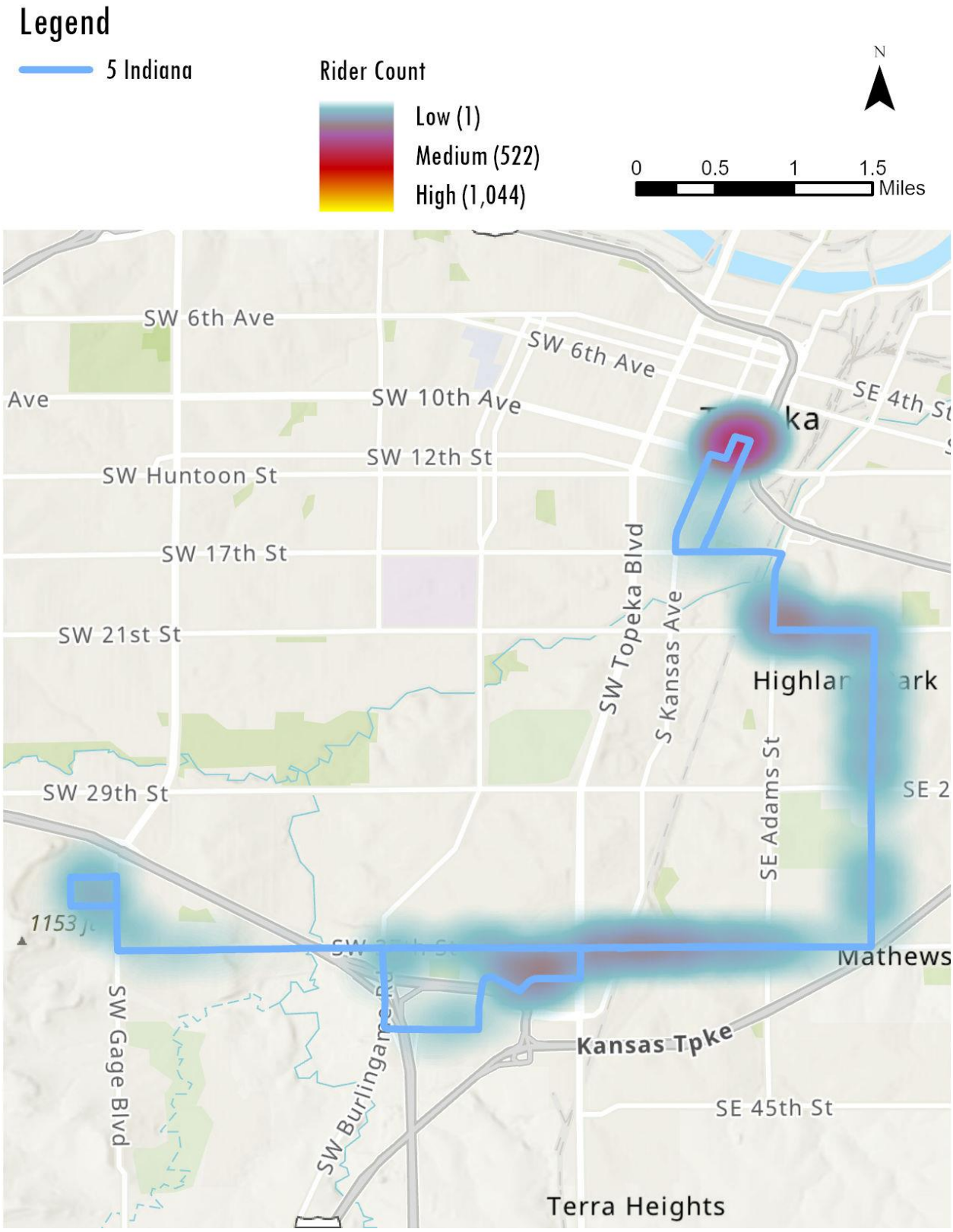
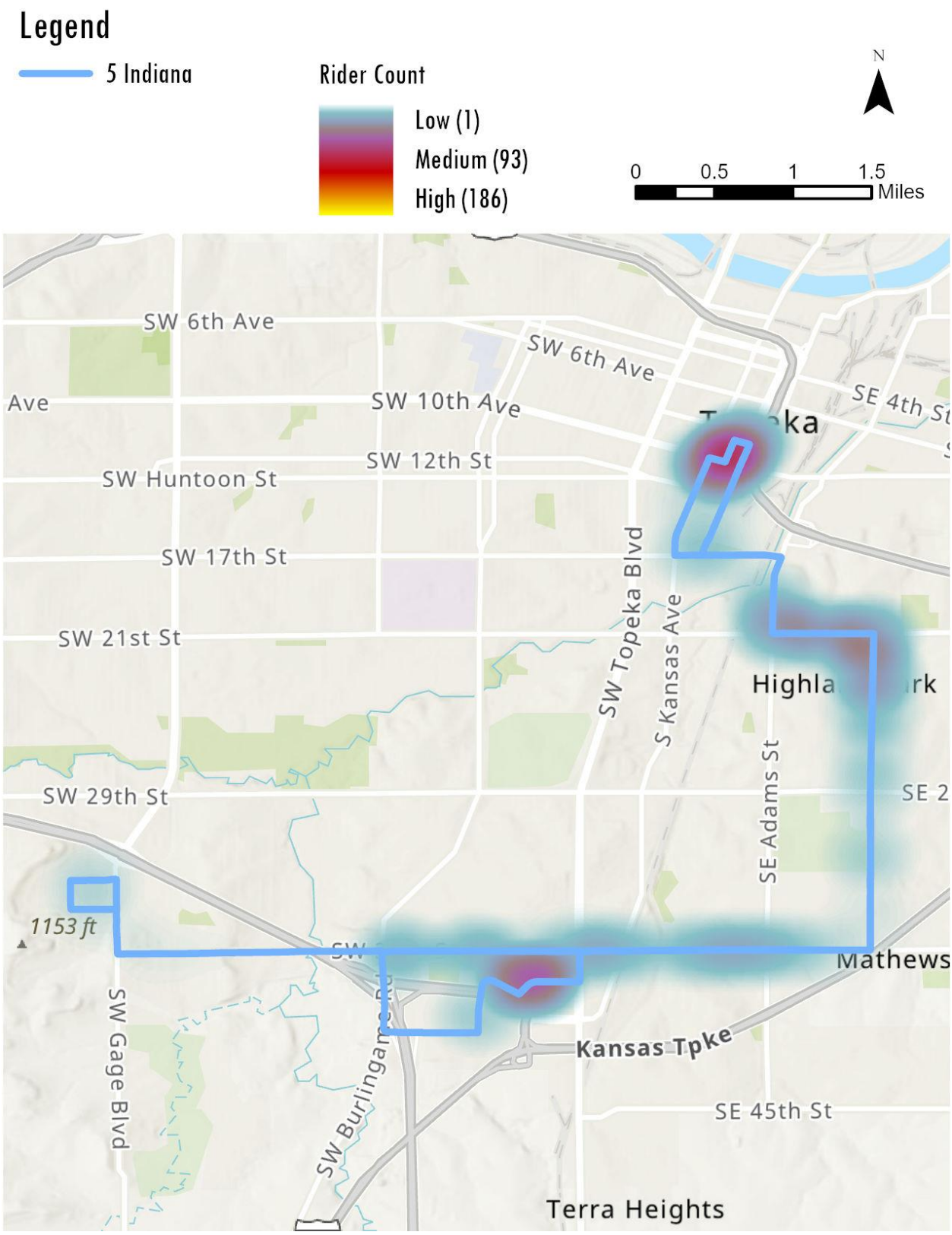


Figure 29: Route 5 Saturday Ridership



Summary

Route 5 is not a strong-performing route but it does provide vital connections for riders, such as to the Walmart South and the TARC Industries/Employment Center.

As discussed previously, the ridership for Route 5 drops precipitously for weekdays and Saturdays west of Burlingame Road. Considerations could be made to remove the far western portions of Route 5 and to refocus on Route 5's ridership strengths, notably the Walmart South/TARC Industries. There are multiple apartment complexes north of the Walmart South area that do not currently have service. Travel time savings made from removing the western portion of the route could be used to provide coverage to other parts of the area or to potentially added for improved frequency. Another option could be end the route at TARC and cover areas to the west with microtransit.

Route 6 West 6th

Route 6 serves the central and western areas of Topeka. The route travels mainly east and west along West 6th Avenue. It connects downtown Topeka to the Walmart West. The route also serves the St. Francis Health Center, as shown in **Figure 30**. The route operates weekdays and Saturdays and interlines with Route 3. On weekdays, the route operates between 5:45 AM and 6:40 PM. On Saturday, the route operates between 8:15 AM and 6:10 PM. This is a strong performing route. The route has the highest weekday ridership and the second highest on Saturdays.

Route 6 predominately serves established and historic single-family neighborhoods, major regional medical clusters, downtown Topeka, Gage Park/Topeka Zoo, and major retail and commercial clusters on the west side of Topeka.

Approximately 6,900 residents live within a ¼ mile of the route. There are also approximately 16,400 jobs within a ¼ mile of the route – with jobs clusters in downtown Topeka, the St. Francis Health Center and medical facilities, and retail near the West Ridge Mall.

As shown in **Table 21**, this route serves, on average, 253 riders during each weekday. This route ranks first for average weekday ridership. Saturdays on average also rank second with 130 riders, on average.

This route operates on 30-minute frequencies all day on weekdays and 60-minute frequency Saturdays.

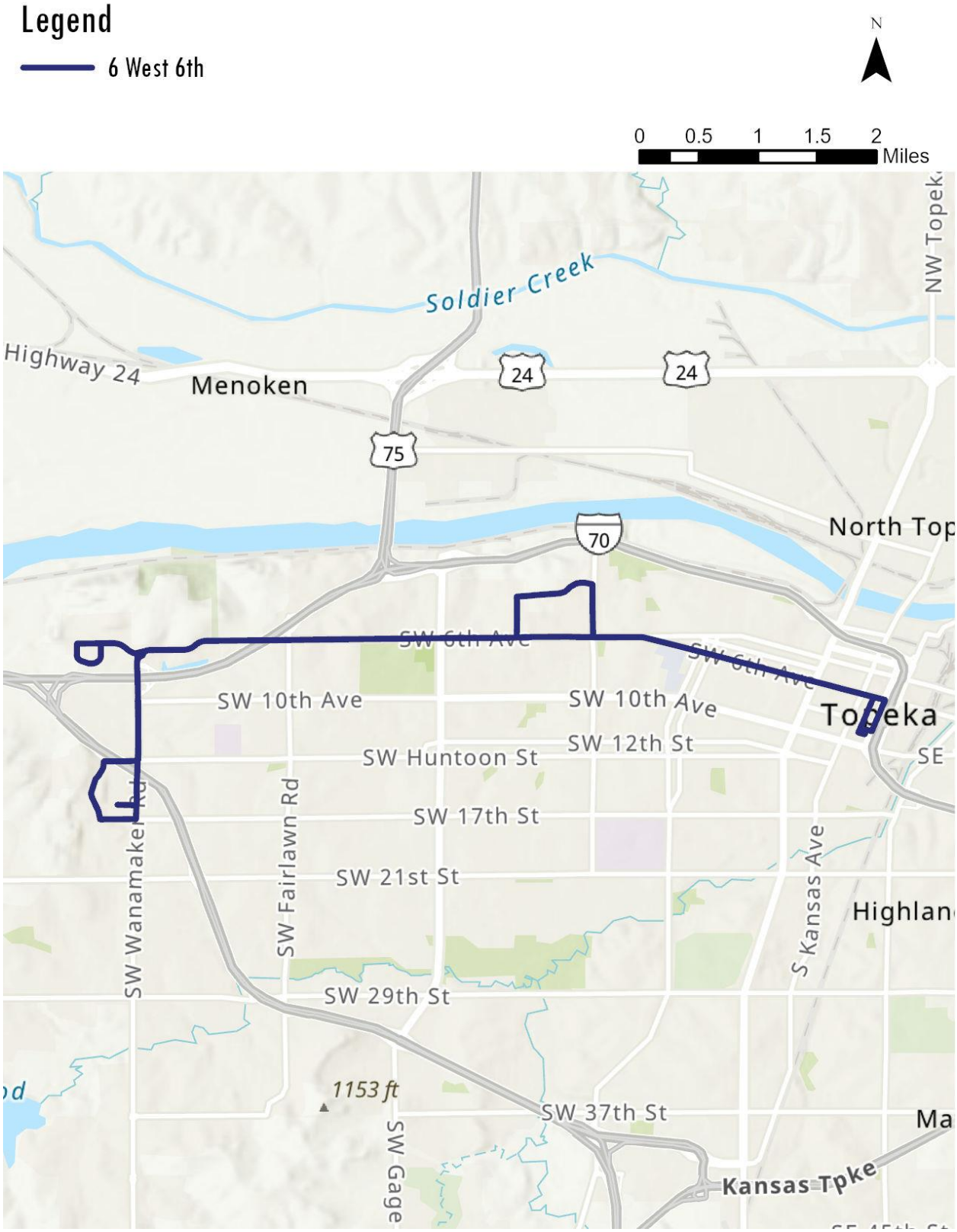
Key Destinations

- QSS
- St. Francis Health Center
- West Ridge Mall
- Gage Park/Topeka Zoo
- Walmart West
- Social Security Administration
- Topeka Center for Advanced Learning and Careers

Table 21: Route 6 West 6th Characteristics

At a Glance		West 6th (Route 6)
Average Weekday Ridership		253
Rank		1st out of 12
Weekday Revenue Hours		24.5
Weekday Passengers per Revenue Hour		10.3
Rank		7th out of 12
Average Saturday Ridership		130
Rank		2nd out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		13.0
Rank		2nd out of 12
Span of Service	Mon – Fri	6:15 AM – 6:40 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	30
	Sat	60
Off-Peak Frequency	Mon – Fri	30
	Sat	60

Figure 30: Route 6 West 6th



Boardings by Time of Day

Weekdays had steady boardings throughout the day as shown in **Figure 31**. The highest number of boardings occurred during mid-afternoon. Route 6 has the highest weekday ridership of any route so the steady and strong number of passenger counts throughout the day is expected. Route 6 serves many retail and medical uses and travels from downtown Topeka to the Walmart West.

Saturday boardings were similarly steady throughout the day and were especially high during mid-afternoon as shown in **Figure 32**.

Figure 31: Route 6 Weekday Boardings by Time of Day
May 2021

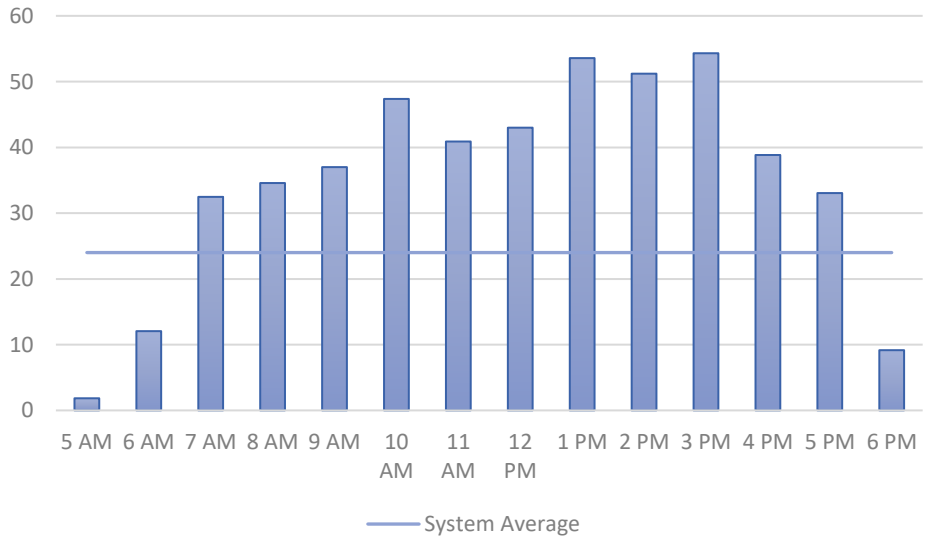
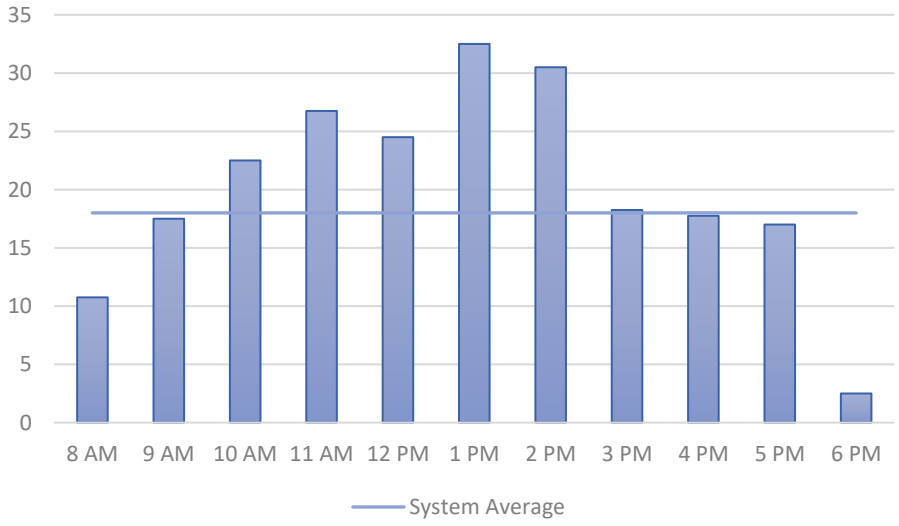


Figure 32: Route 6 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 33 and **Figure 34** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday are similar and indicate strong ridership and passenger activity.

Route 6 ranks as one of the strongest routes in the Topeka Metro system, in terms of average weekday ridership. It also performs strongly for Saturdays – ranking second in Saturday average ridership and second in terms of Saturday passengers per revenue hour.

17% of households within a ¼ mile of the route do not have a vehicle and even an even greater percentage of residents (19%) have a disability. Additionally, there are 16,400 jobs within a ¼ mile of this route. The high population without a vehicle and the high job numbers correlate with the strong ridership seen for both weekdays and Saturdays.

Most of the highest boarding activity areas are located at the end points of the route, notably the QSS and the Walmart West/West Ridge Mall area. The areas that stretch between the Topeka Zoo and downtown Topeka see a very high intensity of ridership.

Table 22 reports the top five boarding locations for May 2021 (both inbound and outbound). The Walmart West generated the highest boarding activity – with 461 outbound boardings during May 2021. Tilton's Westside Thriftway, a discount grocery store, is located at the intersection of 6th Avenue and Clay Street and was also generated strong boarding activity.

Table 22: Route 6 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
6th @ Clay EB	134	Walmart West	461
6th @ Polk EB	100	6th @ Topeka WB	140
Valeo	95	6th @ MacVicar	119
6th @ Orchard EB	86	6th @ Clay WB	116
MacVicar @ Walmart	81	6th @ Summit WB	93
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
MacVicar @ Walmart	11	Walmart West	37
6th @ Polk EB	11	Wanamaker @ 10th	24
6th @ Clay EB	10	6th @ Clay WB	11
6th @ Western EB	6	6th @ Horne WB	9
6th @ Summit EB	6	6th @ Polk WB	8

Source: DoubleMap, 2021

Figure 33: Route 6 Weekday Ridership

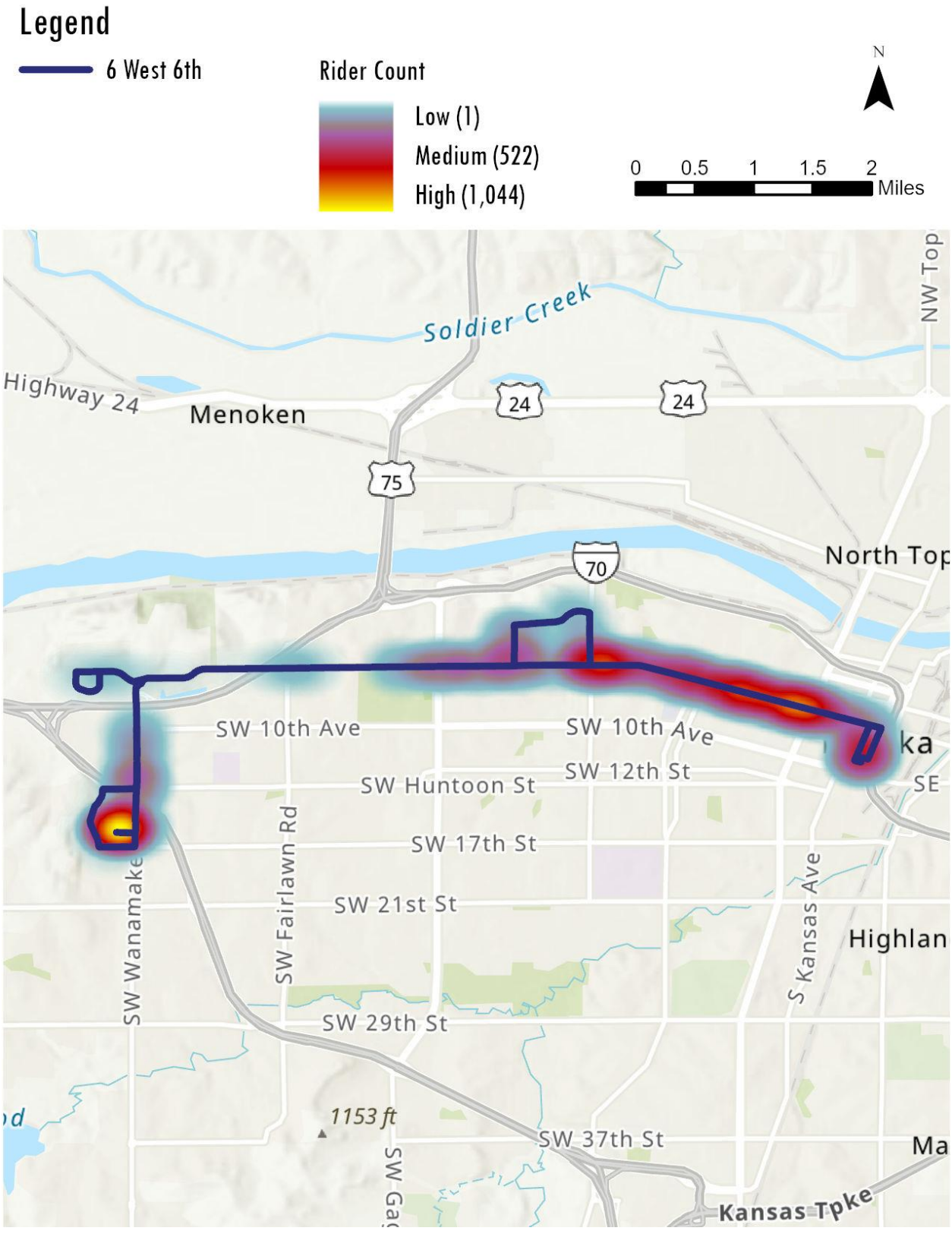
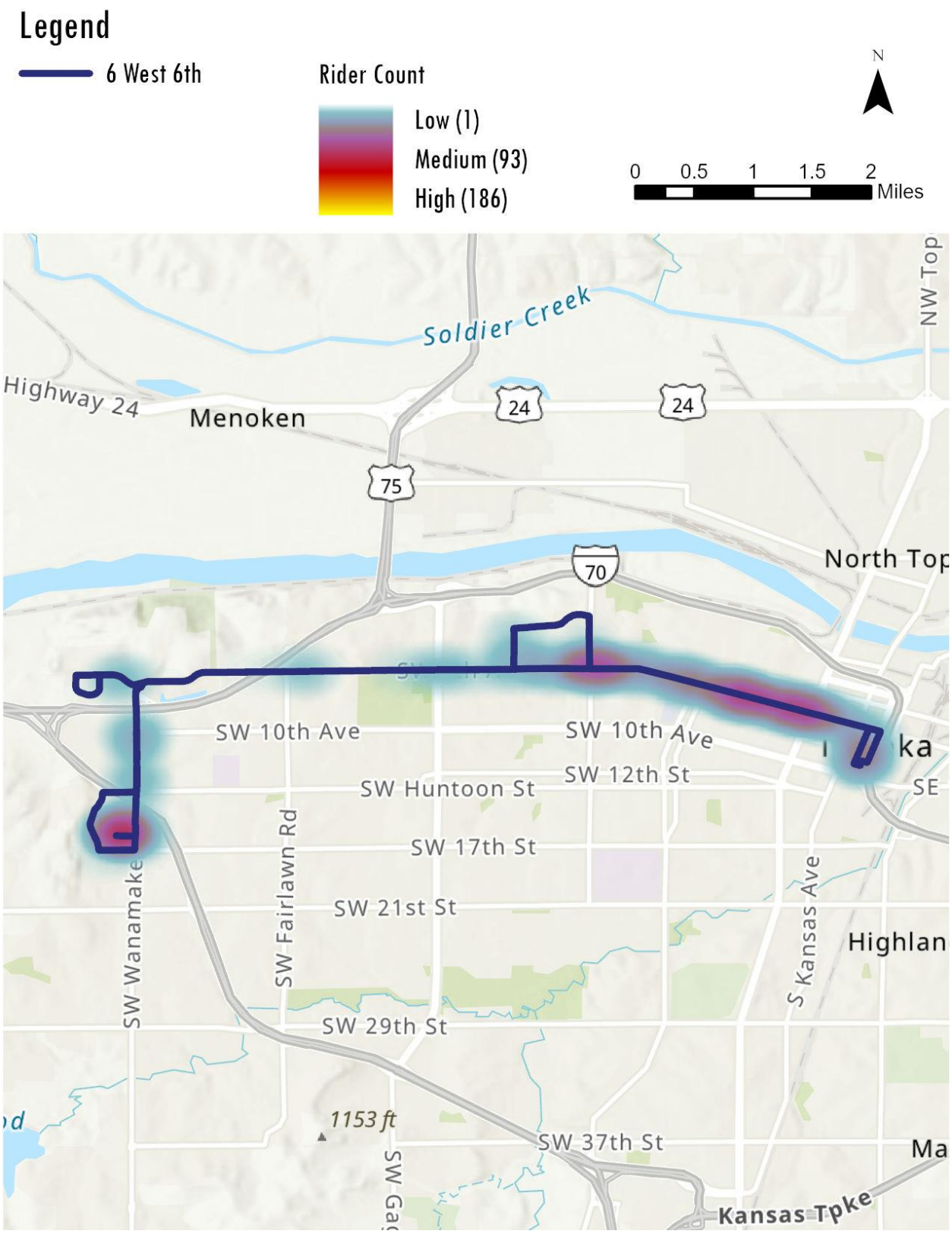


Figure 34: Route 6 Saturday Ridership



Summary

Route 6 is a strong route. It provides key connections to major centers of employment, including medical clusters, retail at the West Ridge Mall area, and downtown Topeka. It also provides connections to regional entertainment and recreation centers, notably Topeka Zoo and Gage Park. The route also travels through a fairly dense and transit-dependent area.

Due to the traffic along this route, the route can run long and may have on-time performance issues during these periods of the day. On average, it takes 55 minutes for a bus to travel the entire round trip and the timepoints are set to every 30 minutes. The loop to the Social Security office on Commerce Place and West 6th is out of direction from the rest of the route and has low ridership. This area could be taken over by a Wanamaker crosstown route.

Though this route is a strong performer in terms of ridership (for both weekdays and Saturdays), it has moderately low weekday productivity. The weekday passengers per revenue hour is ranked 7th out of 12 (at 10.3 passengers). The increased frequency likely encouraged high ridership but the productivity, as a whole, is not as high as the ridership would suggest.

Route 6 connects with Route 10 at Wanamaker Road. Both Route 6 and Route 10 are high-performing routes that serve the northern and western portions of Topeka.

Route 7 Washburn

Route 7 travels north and south in the central areas of Topeka. The route operates on weekdays and Saturdays. On weekdays, the route operates between 5:45 AM and 6:40 PM. On Saturday, the route operates between 8:45 AM and 6:40 PM.

Route 7 predominately serves established and historic single-family neighborhoods through central Topeka. It also provides connections to the Walmart South, Washburn University, and the Stormont Vail Health Hospital and medical clusters near intersection of 8th Avenue and Washburn Avenue as shown in **Figure 35**. Approximately 11,500 residents live within a ¼ mile of the route. There are also approximately 21,700 jobs within a ¼ mile. The number of jobs that this route serves is very high when compared to other routes.

As shown in **Table 23**, this route serves, on average, 133 passengers during each weekday. This route ranks 11th out of 12 for average weekday ridership. Saturdays on average also rank poorly at 8th out of 12 – with 103 riders per day. It should be noted that the ridership data from May 2021 may not fully capture Washburn University student, faculty and staff ridership since not all classes and activities were in person due to COVID.

This route operates on 60-minute frequencies Monday through Saturday for both peak and off-peak periods.

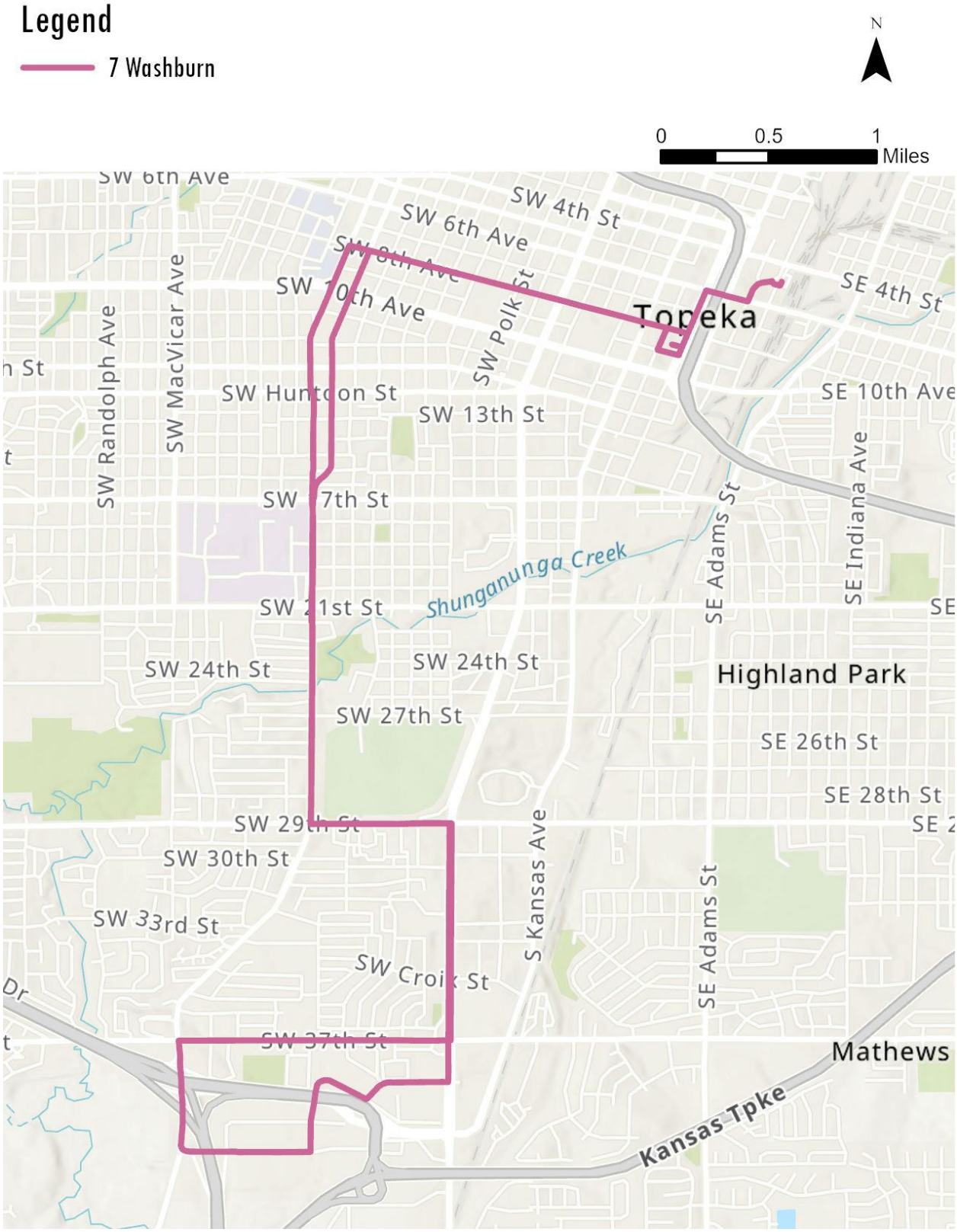
Key Destinations

- QSS
- Stormont Vail Health Hospital
- Salvation Army Thrift Store
- Topeka/Shawnee County Public Library
- Washburn University
- Walmart South
- Mainline Printing (commercial facility)

Table 23: Route 7 Washburn Characteristics

At a Glance		Washburn (Route 7)
Average Weekday Ridership		133
Rank		11th out of 12
Weekday Revenue Hours		13.0
Weekday Passengers per Revenue Hour		10.2
Rank		8th out of 12
Average Saturday Ridership		103
Rank		8th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		10.3
Rank		8th out of 12
Span of Service	Mon – Fri	5:45 AM – 6:40 PM
	Sat	8:45 AM – 6:40 PM
Peak Frequency	Mon – Fri	60
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 35: Route 7 Washburn



Boardings by Time of Day

Weekdays had a steady rate of boardings throughout the day – with a peak around 3 PM as shown in **Figure 36**. Even though this route ranked near the bottom in terms of weekday ridership on average, the boardings were evenly distributed throughout the day.

For Saturdays, the boardings were also steady per hour – with a slight peak around 9 AM as shown in **Figure 37**. This route had slightly higher activity in the morning when compared to the afternoon.

Figure 36: Route 7 Weekday Boardings by Time of Day
May 2021

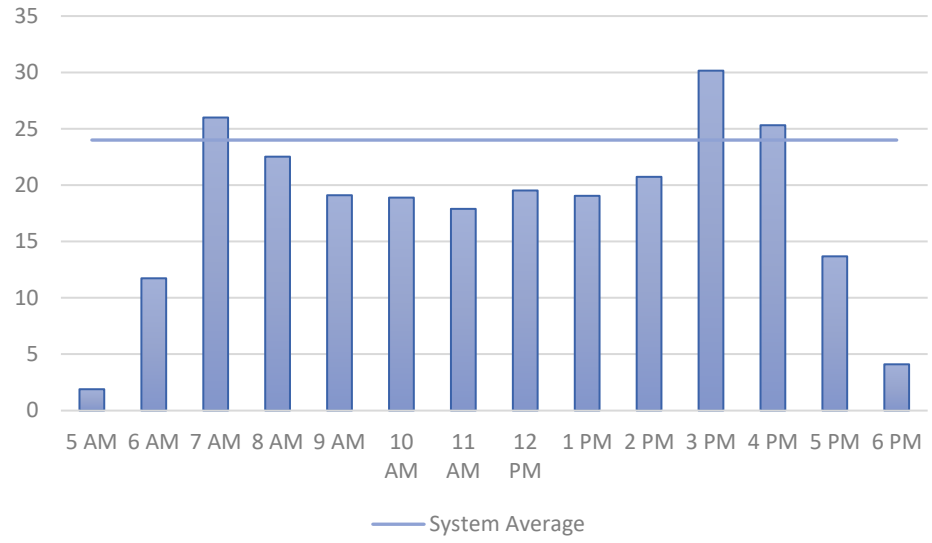
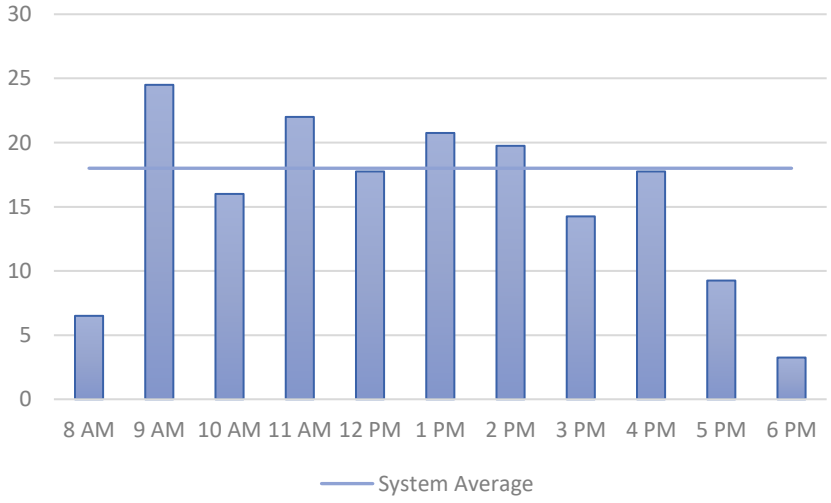


Figure 37: Route 7 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 38 and **Figure 39** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday are similar, though Saturday is less pronounced.

Most of the ridership occurs at the end points of the route, notably the QSS and the Walmart South. The stops near Washburn University were major areas for ridership as well.

The Stormont Vail Health Hospital located at the intersection of Washburn Avenue and 10th Avenue is a major medical cluster for Topeka and for the region at large. The hospital area has many medical centers, including nursing homes, doctors' offices, the Shawnee County Health Agency, and the Kansas Rehabilitation Hospital. This area had moderately high ridership.

The Village at Old Town apartments at the intersection of 8th and Western Avenue had high ridership – some of the highest on the route for both weekdays and Saturdays.

As shown in **Figure 36** and **Figure 37**, this route has strong boarding activity throughout the day, indicating that this route serves a variety of destinations that attract riders for many purposes, including work, medical uses, and shopping.

Table 24, below, reports the top five boarding locations for May 2021 (both inbound and outbound). The Walmart South generated the most boardings for weekdays and Saturdays. The intersection of 8th Avenue and Western Avenue saw high activity as well, likely due to dense apartments and townhomes in this area.

Table 24: Route 7 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
8th @ Western EB	103	Walmart South	133
Lane @ Huntoon	72	Topeka @ Croix SB	79
TARC	66	Topeka @ 38th	67
37th @ Plass (Park Ct.)	63	Washburn @ 11th	60
29th @ Fairway (Brewster Place) WB	57	Washburn @ 17th SB	53
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
Topeka @ 37th NB	8	Walmart South	12
Lane @ Huntoon	6	Washburn @ 17th SB	5
Washburn @ 21st NB Rt 7	6	8th @ Polk WB	4
Topeka @ 32nd NB	4	Topeka @ Croix SB	4
8th @ Western EB	4	8th @ Western WB	4

Source: DoubleMap, 2021

Figure 38: Route 7 Weekday Ridership

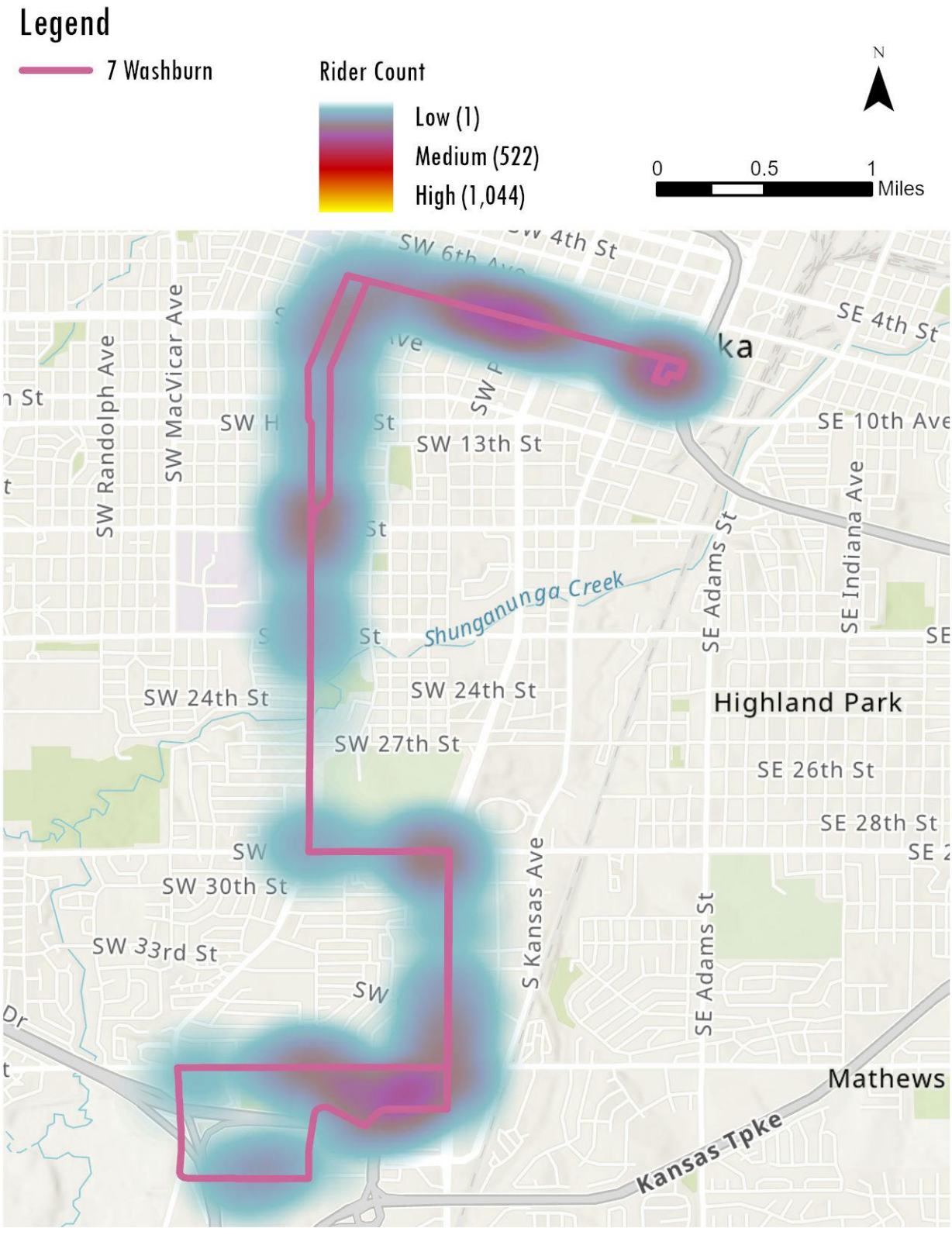
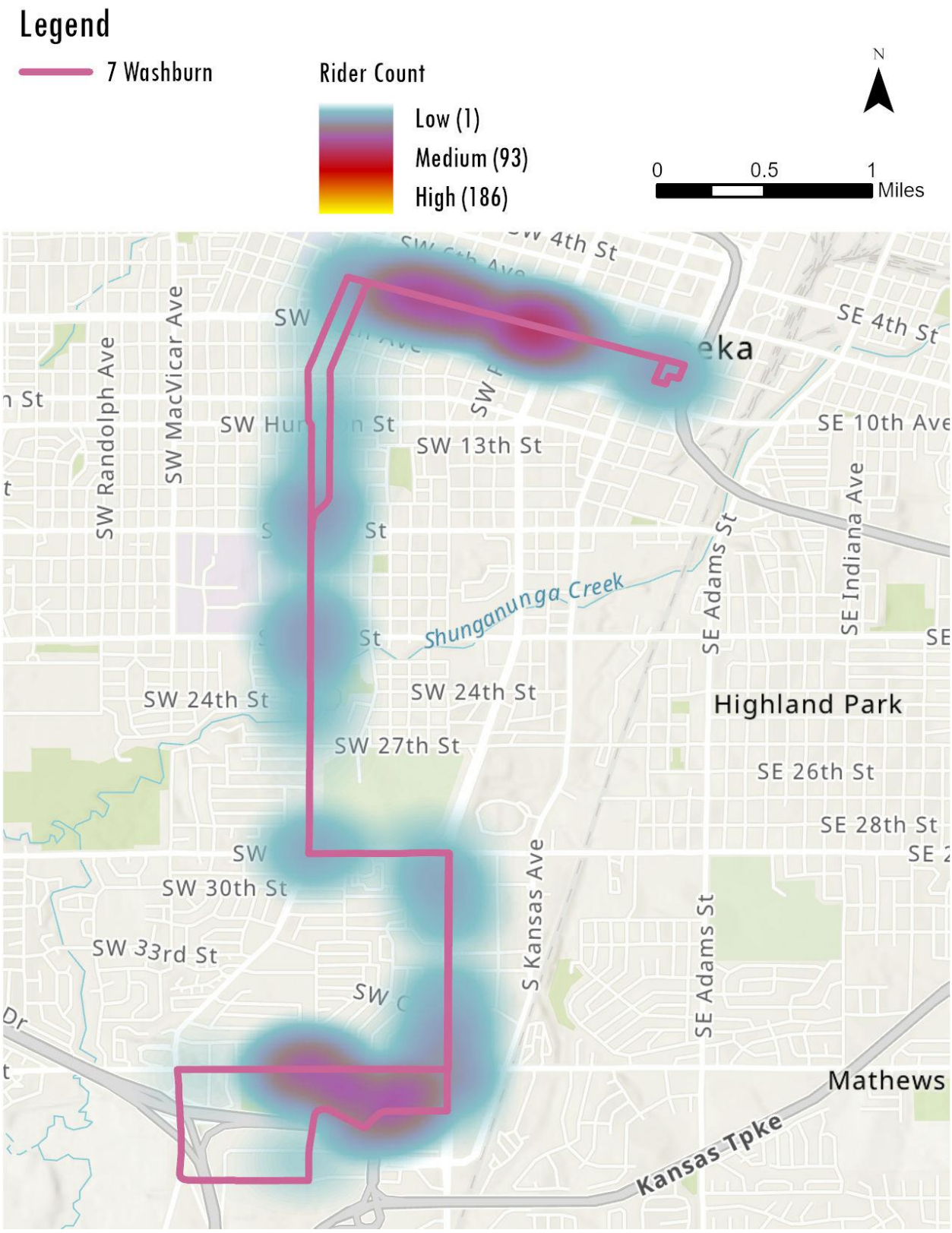


Figure 39: Route 7 Saturday Ridership



Summary

Route 7 provides north-south service in the central core of the service area. Although it connects with the pulse at the QSS, it operates like a crosstown route connecting to multiple east-west routes along Washburn Avenue. Route 7 also has consistent boarding activity throughout the entire route, not just a few high ridership locations. This consistent activity shows that the route is being used for multiple purposes and not just one focus area.

Route 10 West 10th

Route 10 travels east and west in central Topeka and connects downtown to the West Ridge Mall, as shown in **Figure 40**. The route mainly travels east and west along 10th Avenue, then north and south on Wanamaker Road. The route operates on weekdays and Saturdays. On weekdays, the route operates between 6:15 AM and 6:41 PM. On Saturday, the route operates between 8:15 AM and 6:10 PM. Topeka Metro also operates Route 10S West 10th Special for afternoon school trips from Highland Park High School and Topeka High School.

Route 10 predominately serves single-family neighborhoods, major regional medical centers, downtown Topeka, Gage Park, Topeka High School, and major retail and commercial clusters on the west side of Topeka (West Ridge Mall and Walmart West). Approximately 8,400 residents live within a ¼ mile of the route. There are also approximately 15,400 jobs within a ¼ mile of the route – with jobs clusters in downtown Topeka, the Walmart West retail area, and the medical facilities near Stormont Vail Health Hospital.

As shown in **Table 25**, this route serves, on average, 219 passengers during each weekday. This route ranks 2nd out of 12 for average weekday ridership. Saturdays on average also rank strongly, at 4th out of 12– with 118 riders per day. This route operates 30-minute frequencies during peak weekday periods. This route operates on 60-minute frequencies during off-peak weekday periods. On Saturday the route operates 60-minute frequencies all day.

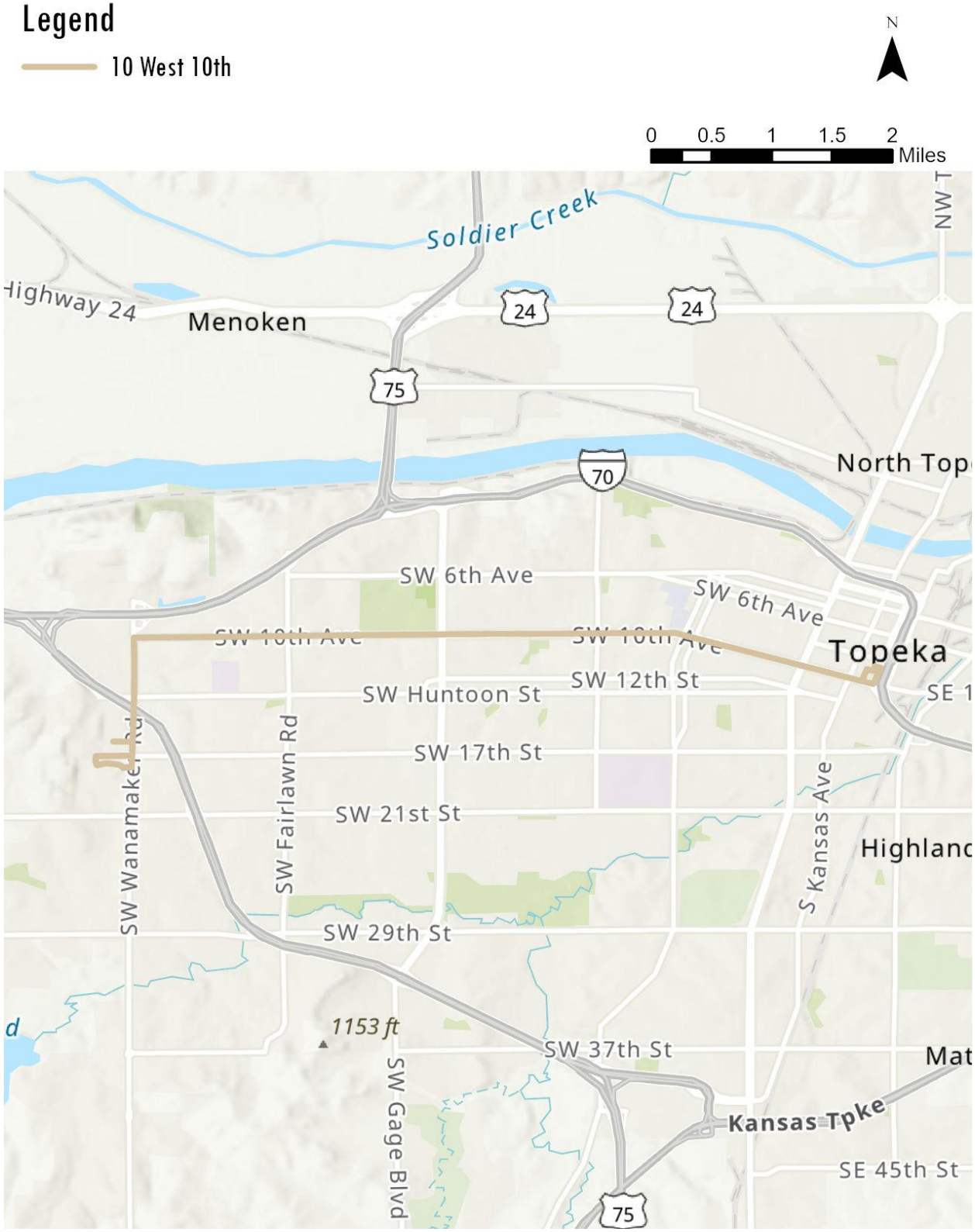
Key Destinations

- QSS
- Walmart West
- West Ridge Mall
- Stormont Vail Health Hospital
- Topeka Zoo
- Topeka/ Shawnee County Public Library
- Topeka High School
- Kansas State Capitol

Table 25: Route 10 West 10th Characteristics

At a Glance		West 10th (Route 10)
Average Weekday Ridership		219
Rank		2nd out of 12
Weekday Revenue Hours		17.3
Weekday Passengers per Revenue Hour		12.8
Rank		2nd out of 12
Average Saturday Ridership		118
Rank		4th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		11.8
Rank		4th out of 12
Span of Service	Mon – Fri	6:15 AM – 6:41 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	30
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 40: Route 10 West 10th



Boardings by Time of Day

Weekday boardings had sharp increases in the morning peak (7 AM) and during the late afternoon – notably 3 PM as shown in **Figure 41**. Similar to Route 3, this route serves education areas (i.e., the Topeka High School). Additionally, this route serves the Stormont Vail Health Hospital and other medical uses. Boardings at 3 PM may be affected by first shift to second shift change by those employees. Route 10 is also one of the highest-ranking routes in terms of average weekday ridership so strong boardings throughout the day are expected.

For Saturdays, the boardings were consistent throughout the day as well as shown in **Figure 42**.

Figure 41: Route 10 Weekday Boardings by Time of Day
May 2021

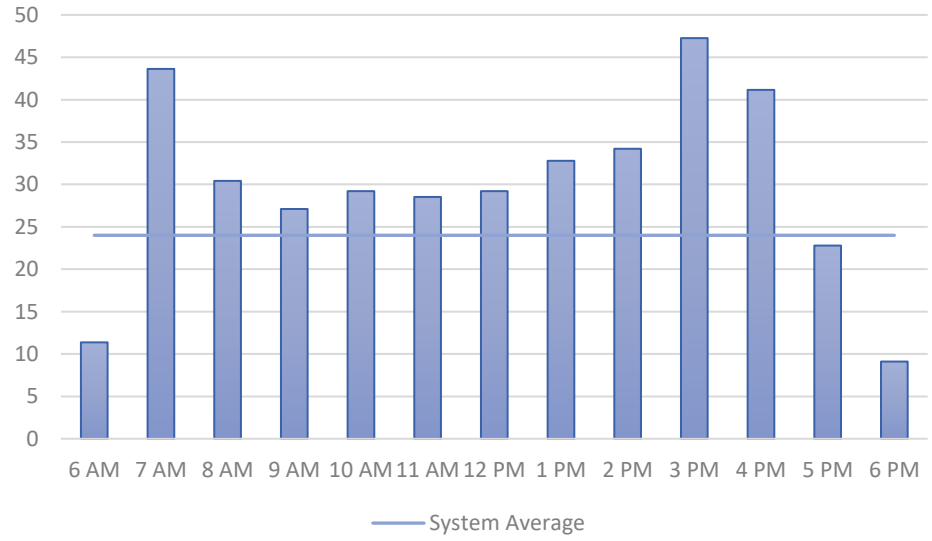
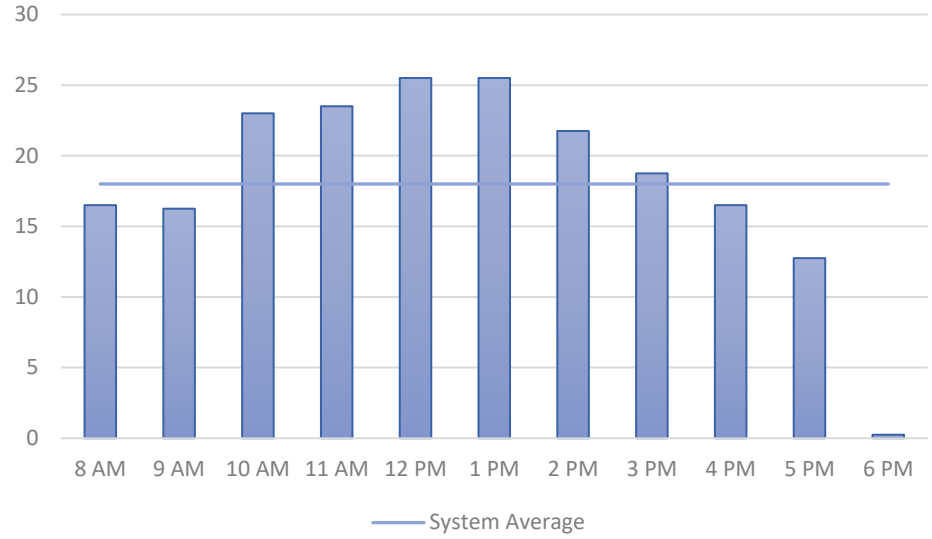


Figure 42: Route 10 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 43 and **Figure 44** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday are similar and show almost identical patterns.

Approximately 5,600 residents live within ¼ mile of this route. Of those, approximately 18% live in poverty and 23% of households do not have a vehicle.

This route ranks strongly for both average weekday ridership/passengers per revenue hour (2nd both metrics) and Saturday average ridership/passengers per hour (4th for both metrics). The high percentage of households without a vehicle and other neighborhood demographics point to residential needs for the service along this route.

Route 10 had substantial ridership for most of its trips. The eastern areas – downtown Topeka and notably the Stormont Vail Health hospital and Topeka and Shawnee County Public Library hub had strong weekday ridership. The Stormont Vail Health hospital is located at the intersection of Washburn Avenue and 10th Avenue. This is a major medical cluster for Topeka and for the region at large. The hospital area has many medical centers, including nursing homes, doctors' offices, the Shawnee County Health Agency, and the Kansas Rehabilitation Hospital.

West Ridge Mall also had significant ridership, though it was not as strong as destinations on the east end of the route.

As discussed in **Figure 41** and **Figure 42**, boarding activity for Route 10 showed strong and consistent boarding throughout the day.

Table 26, below, reports the top five boarding locations for May 2021 (both inbound and outbound). The Walmart West generated the most boardings for weekdays and Saturdays. The Topeka High School and of 10th Avenue and Western Avenue saw high activity as well (similar to patterns seen in Route 7).

Table 26: Route 10 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
10th @ Taylor THS EB	104	Walmart West	214
10th @ Washburn (Library) EB	103	10th @ Washburn (Library) WB	82
West Ridge Mall	69	10th @ Western THS WB	80
10th @ Zoo Parkway (Gage) EB	67	10th @ Zoo Parkway (Gage) WB	77
Invisible stop 1	56	Temp - Fairlawn at 10th Street SB	66
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
10th @ Zoo Parkway (Gage) EB	8	Walmart West	11
10th @ Mulvane EB	5	10th @ Zoo Parkway (Gage) WB	7
10th @ Washburn (Library) EB	3	Wanamaker @ Walmart West Entrance	3
Wanamaker @ Westport	2	10th @ Jewell	3
West Ridge Mall	2	10th @ Mulvane WB	3

Source: DoubleMap, 2021

Figure 43: Route 10 Weekday Ridership

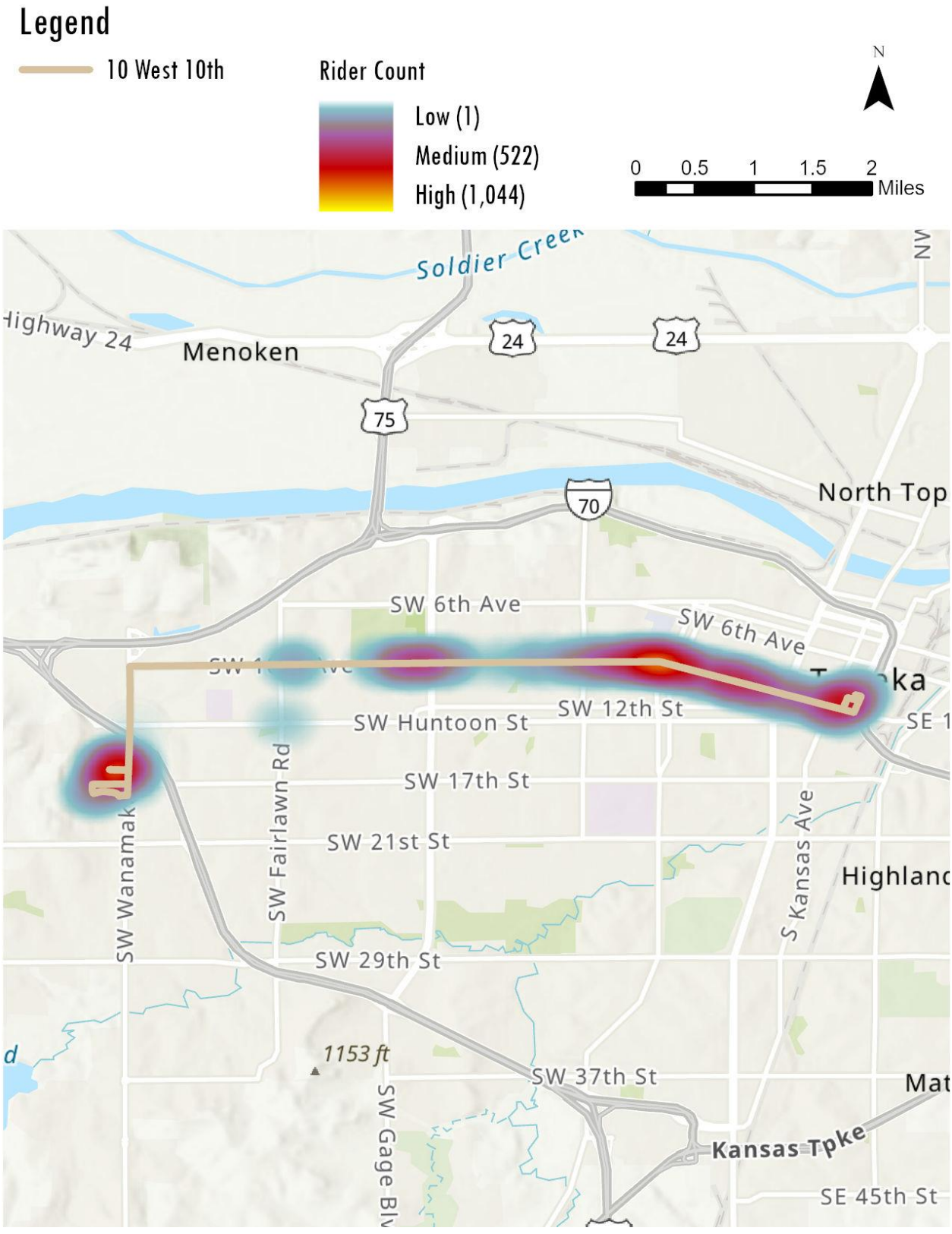
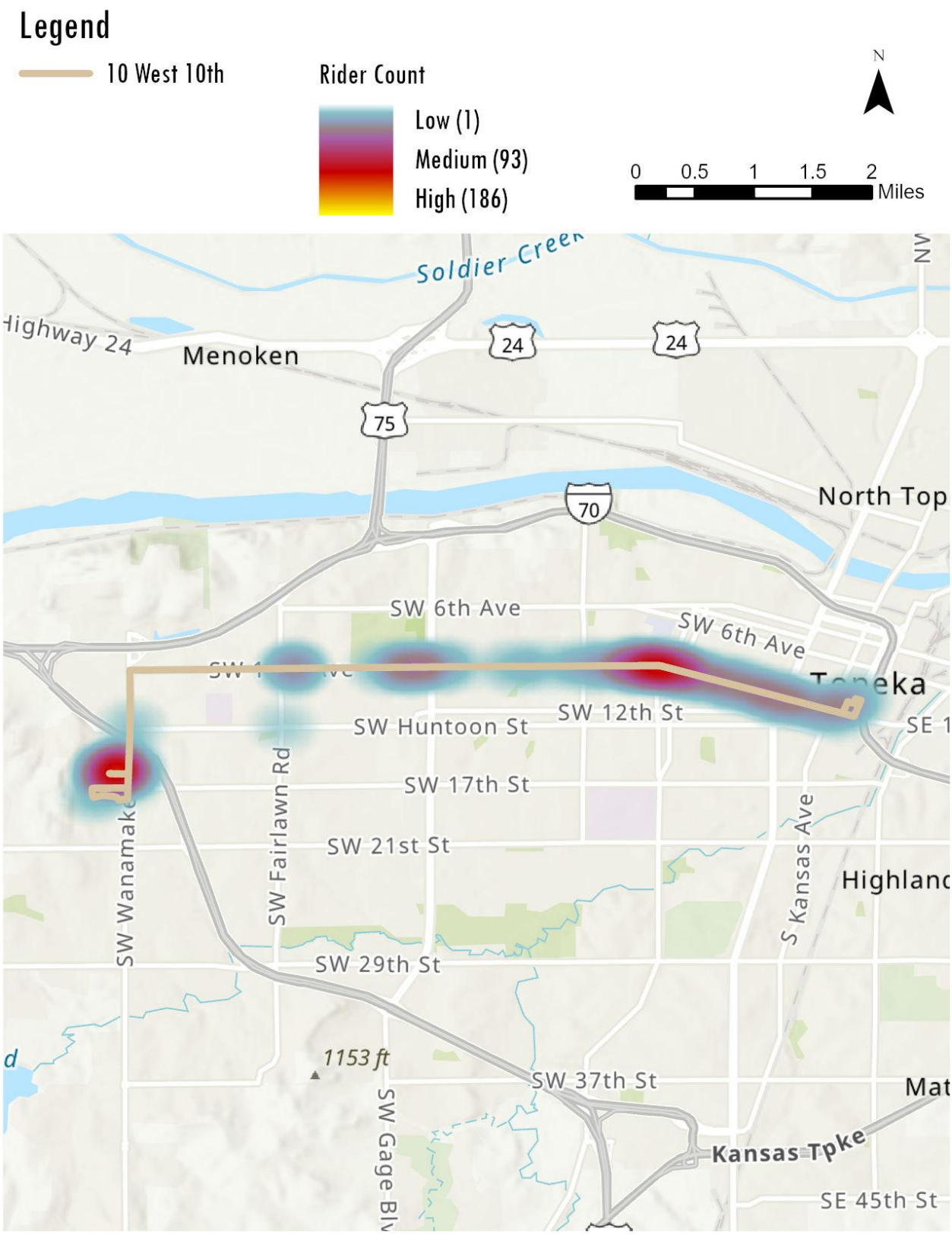


Figure 44: Route 10 Saturday Ridership



Summary

Route 10 is a very strong performing route. It ranks 2nd for weekday ridership and 2nd for weekday productivity with 12.8 passengers per revenue hour. Saturday ridership and productivity are also ranked high (4th for Saturday ridership for Saturday passengers per revenue hour). Due to the traffic along this route, the route can run long and may have on-time performance issues during these periods of the day.

Route 10 connects with Route 6 at Wanamaker Road. Both Route 6 and Route 10 are high-performing routes that serve the northern and western portions of Topeka.

This is a direct and linear route with strong transit generators between two high performing anchors – QSS and Westridge Mall. There are no immediate changes recommended for the route.

Route 12 Huntoon

Route 12 travels east and west on 12th Street in central Topeka and connects downtown to the West Ridge Mall, as shown in **Figure 45**. The route operates on weekdays and Saturdays. On weekdays, the route operates between 6:15 AM and 6:40 PM. On Saturday, the route operates between 8:45 AM and 6:40 PM.

Route 12 serves single-family neighborhoods, the Topeka Housing Authority, Walmart West, and the West Ridge Mall. Approximately 10,900 residents live within a ¼ mile of the route. There are also approximately 9,900 jobs within a ¼ mile of the route.

As shown in **Table 27**, this route serves, on average, 158 passengers during each weekday. This route ranks last, however, for average weekday ridership. Saturdays on average rank 7th out of 12– with 113 riders per day. This route operates 30-minute frequencies during peak weekday periods. This route operates on 60-minute frequencies during off-peak weekday periods. For all periods Saturday, the route operates 60-minute frequencies.

Key Destinations

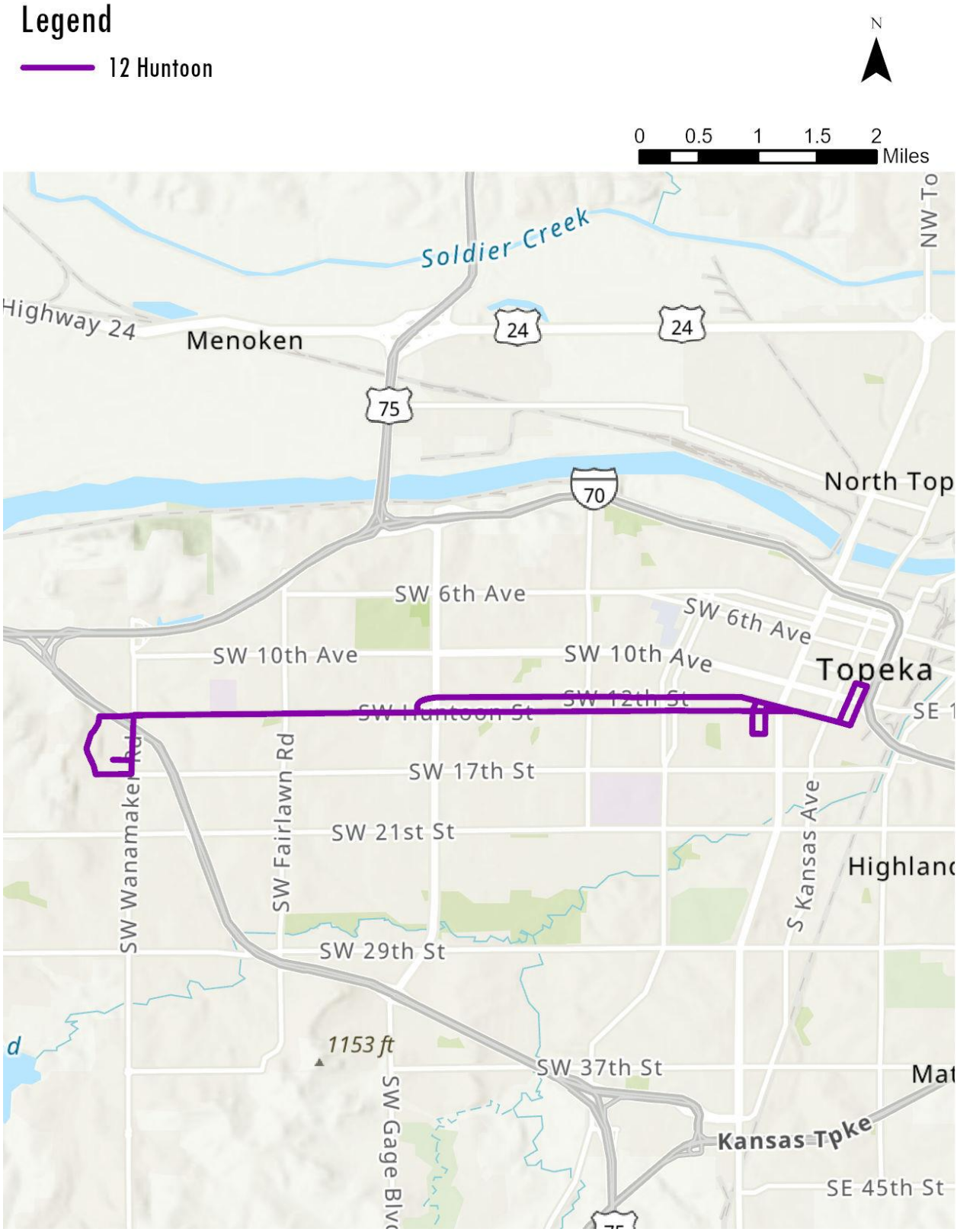
- QSS
- Topeka Housing Authority (Polk Plaza/Tyler Towers)
- Westboro neighborhood
- Randolph neighborhood
- Washburn Institute of Technology
- Walmart West
- West Ridge Mall

Table 27: Route 12 Huntoon Characteristics

At a Glance		Huntoon (Route 12)
Average Weekday Ridership		158
Rank		7th out of 12
Weekday Revenue Hours		18.5
Weekday Passengers per Revenue Hour		8.5
Rank		12th out of 12
Average Saturday Ridership		113
Rank		7th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		11.3
Rank		7th out of 12
Span of Service	Mon – Fri	6:15 AM – 6:40 PM
	Sat	8:45 AM – 6:40 PM
Peak Frequency	Mon – Fri	30
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Note: Due to reconstruction of 12th Avenue from Kansas Avenue to Gage Avenue, Route 12 experienced revolving detours and reroutes during time of data collection (May 2021)

Figure 45: Route 12 Huntoon



Boardings by Time of Day

Weekdays had pronounced afternoon ridership peaks as shown in **Figure 46**. This route had very high 3 PM boardings that were almost double the typical rate throughout the day.

For Saturdays, the boardings were fairly consistent throughout the day as shown in **Figure 47**.

Figure 46: Route 12 Weekday Boardings by Time of Day
May 2021

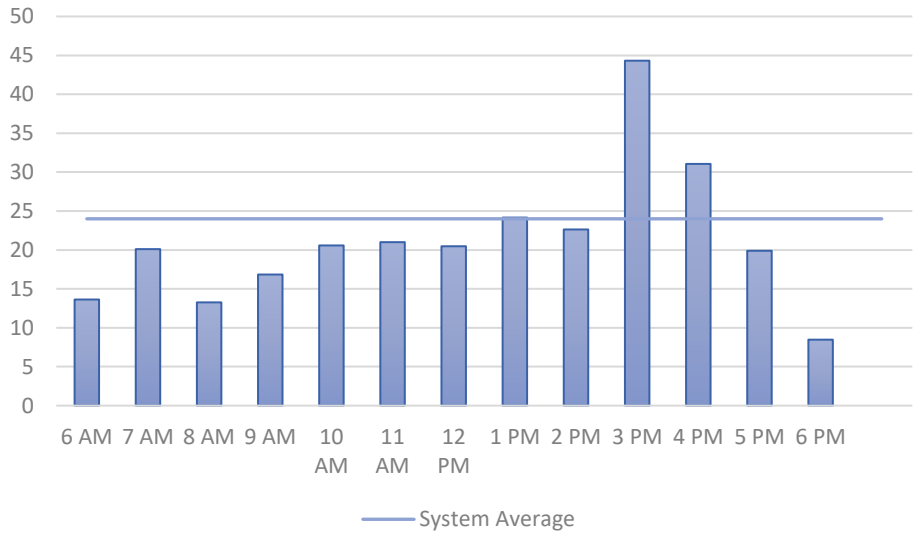
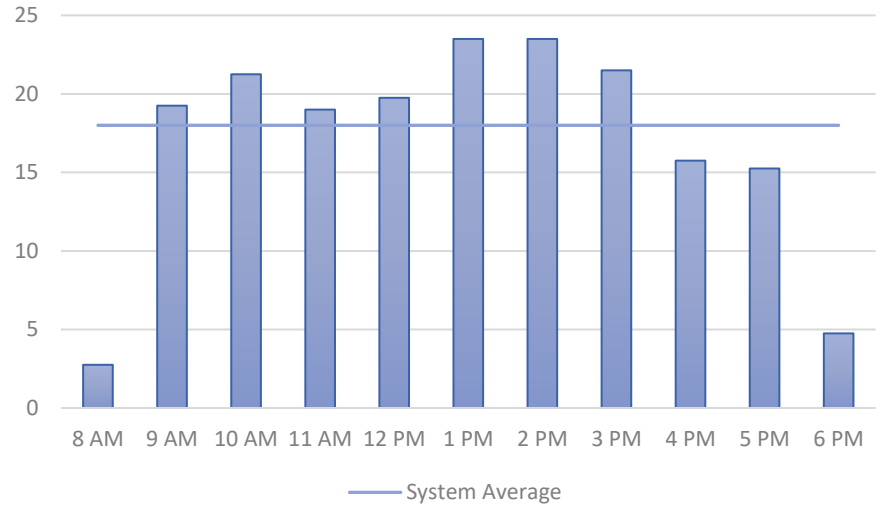


Figure 47: Route 12 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 48 and **Figure 49** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday are similar, but Saturday is much less pronounced.

Ridership was fairly dispersed along all of Route 12 for weekdays and Saturdays, however, there were three main nodes: downtown Topeka, the Topeka Housing Authority (Polk Plaza/Tyler Towers), and the West Ridge Mall/Walmart West.

The Topeka Housing Authority between Polk Street and Tyler Street saw very high ridership activity, indicating that many residents at this development use Route 12 for daily needs. As discussed in **Table 7** and **Table 8**, a transfer analysis found that riders on Route 12 are likely to transfer to Routes 1 or 5, or come from Routes 2, 6, 10, or 21.

Table 28, below, reports the top five boarding locations for May 2021 (both inbound and outbound). The Walmart West generated the most boardings for weekdays and Saturdays. The Topeka Housing Authority saw high activity, as is expected due to the high ridership activity reported above. Huntoon Street and Tyler Street is the location of high-rise apartments and large assisted living facilities. Additionally, the intersection of 12th Avenue and Gage Boulevard is the location of many fast-food restaurants and a hub of employers.

Table 28: Route 12 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
13th @ Tyler Towers	205	Walmart West	280
Walmart West	129	Huntoon @ Luther WB	61
Tyler @ Huntoon	89	Temp Stop: Munson @ Lincoln	52
Huntoon @ Gage	82	Huntoon @ Belle Terrace WB	39
Huntoon @ Luther EB	62	12th @ Mission (Gage)	38
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
13th @ Tyler Towers	12	Walmart West	47
Tyler @ Huntoon	9	Huntoon @ Luther WB	6
Huntoon @ Luther EB	6	12th @ Mission (Gage)	4
Huntoon @ Oakley	3	Wanamaker @ Walmart West Entrance	3
Huntoon @ Clay	3	Huntoon @ Belle Terrace WB	2

Source: DoubleMap, 2021

Figure 48: Route 12 Weekday Ridership

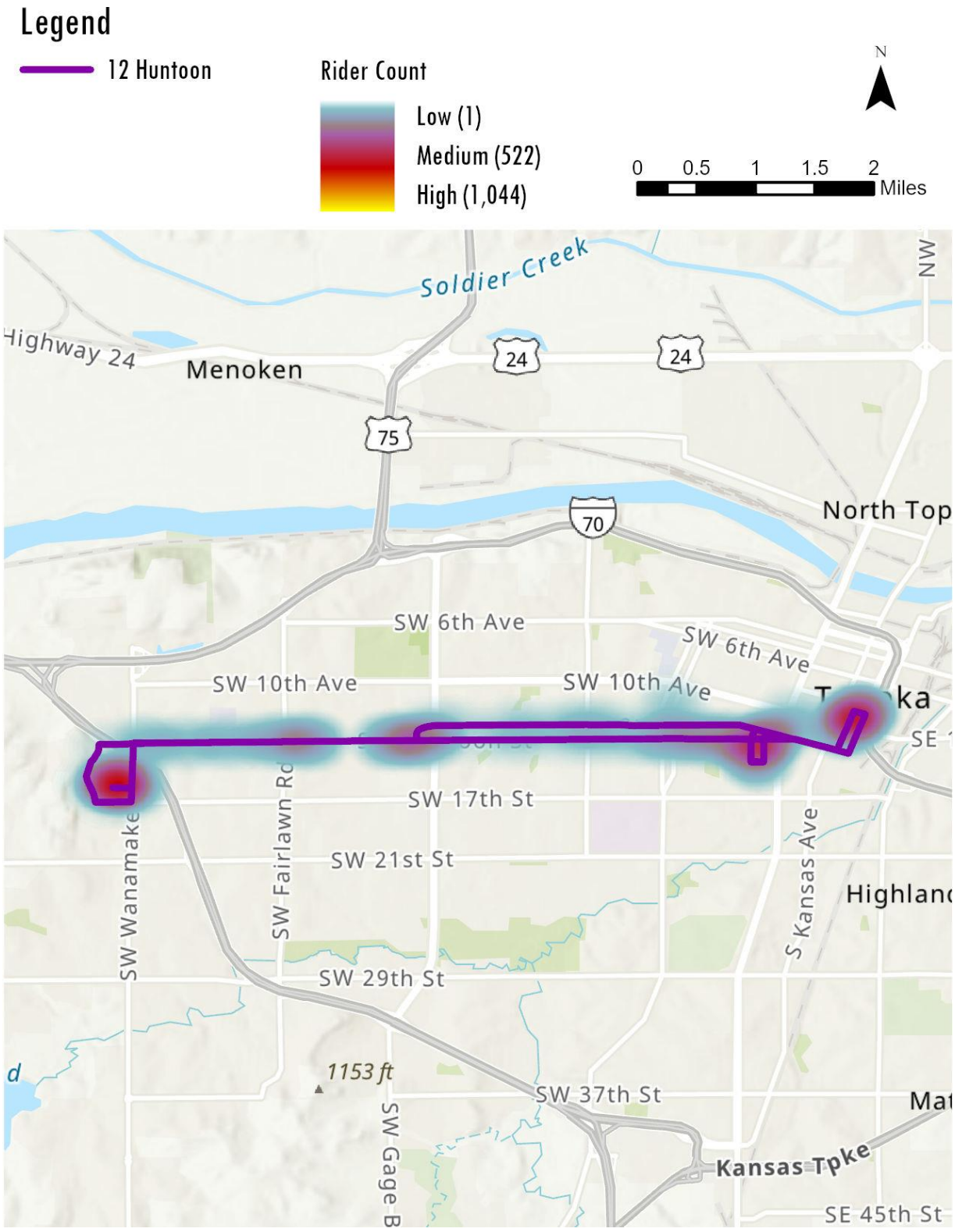
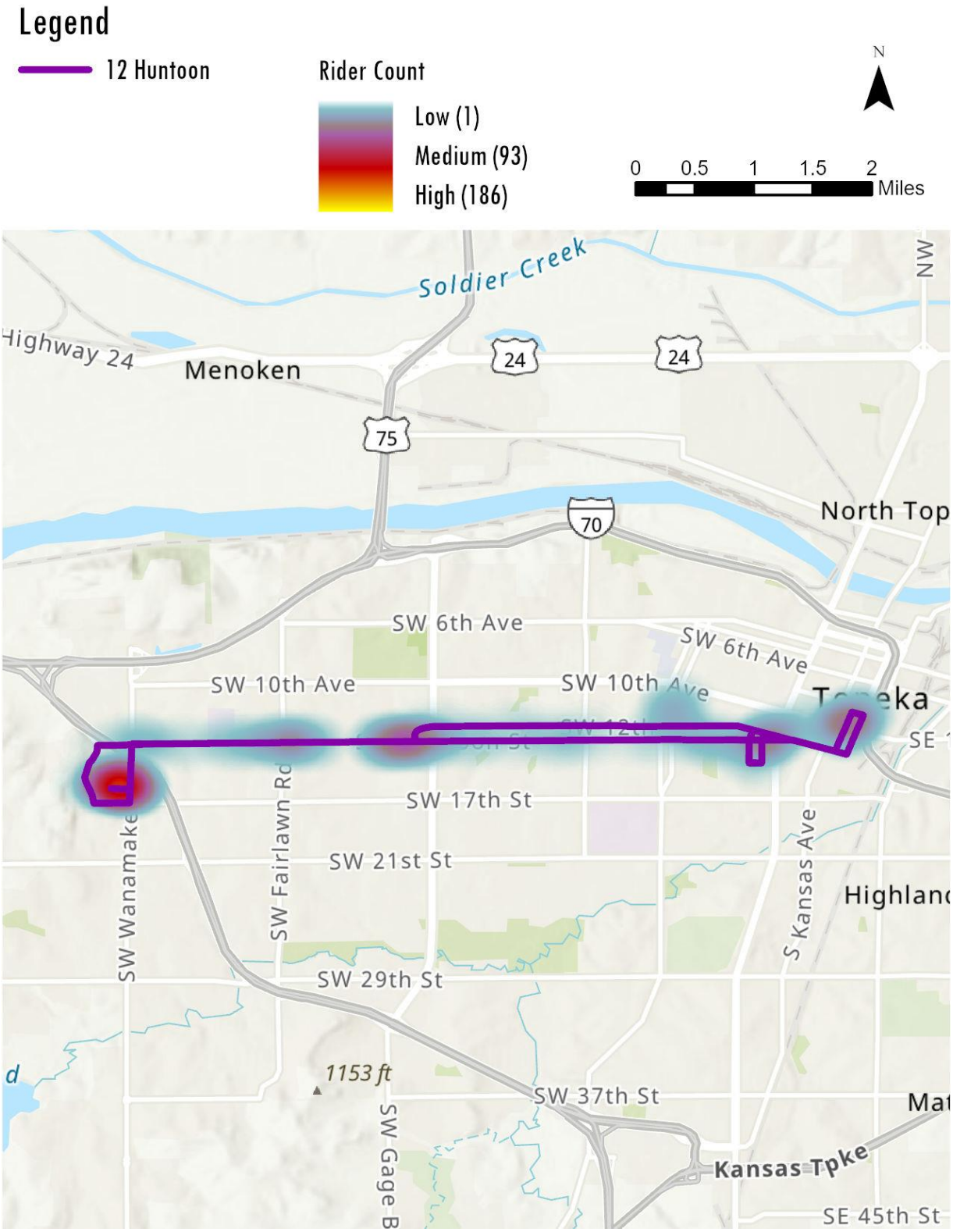


Figure 49: Route 12 Saturday Ridership



Summary

Route 12 operates along the linear 12th Street/Huntoon corridor connecting downtown Topeka/QSS to the Topeka Housing Authority units on 12th between Polk and Tyler Streets and the West Ridge Mall/Walmart West. There is also higher boarding activity on the route at the retail centers near 12th Street and Gage Boulevard. The route is in the middle tier of all routes for ridership and productivity. Based on the ridership activity the route may not need the 30-minute peak frequency and instead could potentially operate all day 60-minute frequencies. This will be further evaluated as part of the Needs Assessment.

Route 17 West 17th

Route 17 travels east and west in central Topeka and connects downtown to the West Ridge Mall, as shown in **Figure 50**. On weekdays, the route operates between 6:45 AM and 6:40 PM. On Saturday, the route operates between 8:45 AM and 6:40 PM. The route interlines with Route 1 and Route 2 at the QSS facility.

Route 17 serves historic neighborhoods, Washburn University, and the West Ridge Mall/Walmart West. Approximately 10,800 residents live within a ¼ mile of the route. There are also approximately 14,000 jobs within a ¼ mile of the route.

As shown in **Table 29**, this route serves, on average, 182 passengers during each weekday. This route ranks 3rd out of 12 for average weekday ridership. Saturdays on average rank 5th out of 12, with 116 riders per day. This route is a strong performer in terms of weekday ridership, however, it ranks 9th out of 12 for weekday passengers per revenue hour (at 9.3 passengers per revenue hour).

This route operates 30-minute frequencies during peak weekday periods. This route operates on 60-minute frequencies during off-peak weekdays and all day on Saturdays.

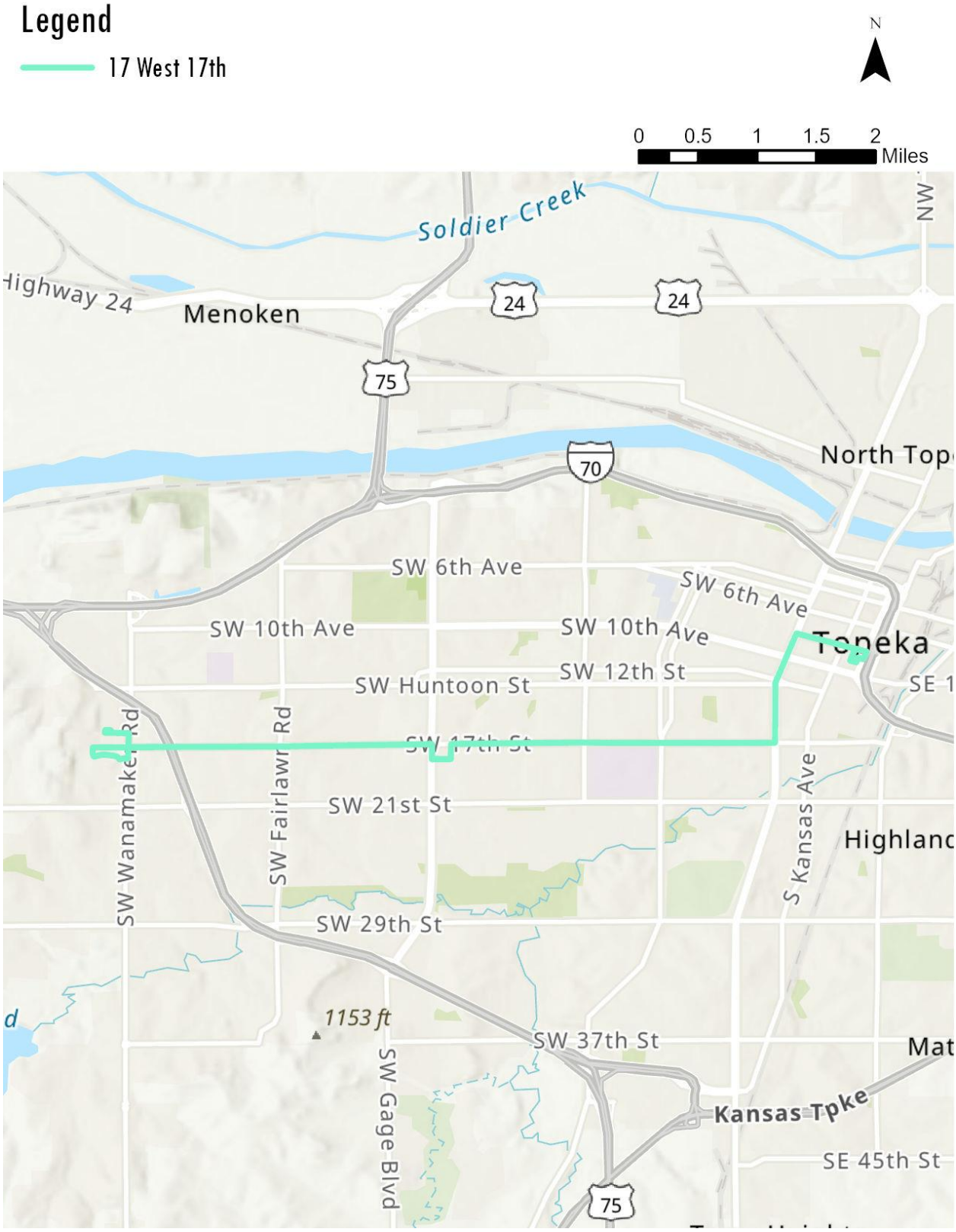
Key Destinations

- QSS
- West Ridge Mall
- Washburn University
- Hillsdale Shopping Center
- Walmart West
- First Apartments (senior living)
- Historic neighborhoods: College Hill, Chesney Park, Westboro

Table 29: Route 17 West 17th Characteristics

At a Glance		West 17th (Route 17)
Average Weekday Ridership		182
Rank		3rd out of 12
Weekday Revenue Hours		19.5
Weekday Passengers per Revenue Hour		9.3
Rank		9th out of 12
Average Saturday Ridership		116
Rank		5th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		11.6
Rank		5th out of 12
Span of Service	Mon – Fri	6:45 AM – 6:40 PM
	Sat	8:45 AM – 6:40 PM
Peak Frequency	Mon – Fri	30
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 50: Route 17 West 17th



Boardings by Time of Day

Route 17 is a strong performer and the weekday boardings throughout the day illustrate the route's strong ridership. The highest boardings occurred in the late afternoon, specifically between 3 PM and 4 PM. The route has increased boarding activity at around 3 PM on weekdays as shown in **Figure 51**.

Similar to trends seen for weekdays, Saturdays also reported the most boardings in the afternoon at 3 PM as shown in **Figure 52**.

Figure 51: Route 17 Weekday Boardings by Time of Day
May 2021

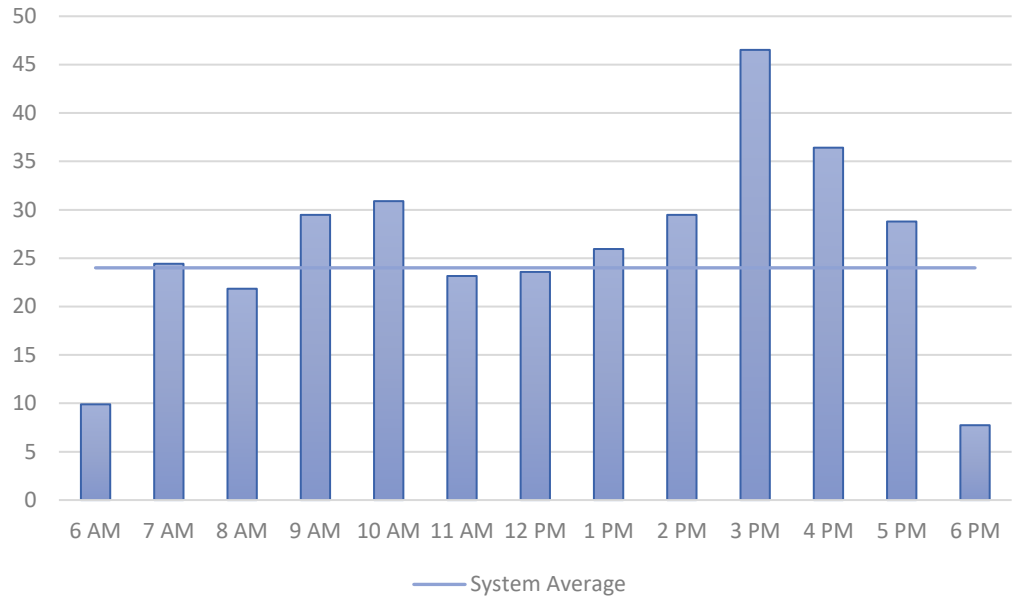
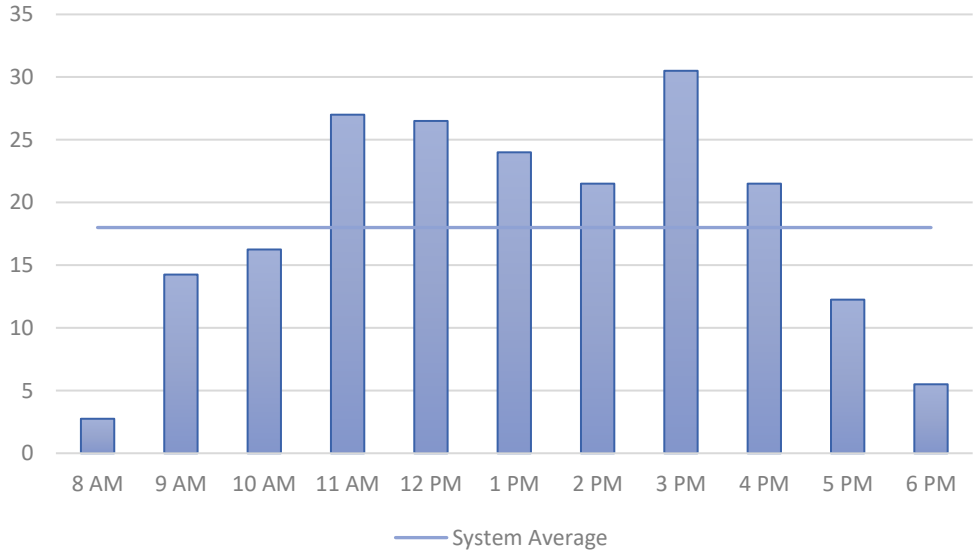


Figure 52: Route 17 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 53 and **Figure 54** show the weekday and Saturday ridership activity for May 2021. The ridership nodes for weekdays and Saturday are fairly similar.

The Walmart West had the strongest boarding activity for both weekdays and Saturdays. It is a major retail and commercial hub for Topeka, as well as a regional retail destination.

Route 17 is a strong performer for weekday ridership and notably Saturday ridership. The even distribution of ridership activity, as well as the intensity around the West Ridge Mall/Walmart West, indicate that this route serves a vital connection for riders in the system.

Additionally, approximately 10,800 residents live within ¼ mile of this route. Of those, approximately 18% live in poverty, 12% likely do not own or have access to a vehicle, and 16% have a disability. The route is highly utilized and the density of users along the route are also likely a contributing factor to this route's strong performance.

Table 30, below, reports the top five boarding locations for May 2021 (both inbound and outbound). The Walmart West generated the most boardings for weekdays and Saturdays. The intersection of 18th Avenue and Atwood Avenue is the location of a large apartment building primarily for senior citizens who do not have vehicles. Boardings to these apartments (called first Apartments) were pronounced on weekdays and for inbound trips on Saturdays. This route also provides access to temporary job agencies, specifically at the intersection of 17th Avenue and Clay Street – one of the most active boarding locations for weekdays.

Table 30: Route 17 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
Walmart West	151	Walmart West	436
17th @ Clay EB	108	13th @ Tyler Towers	219
18th @ Atwood EB	80	18th @ Atwood WB	121
Topeka @ 15th NB	69	17th @ Clay WB	92
17th @ Lane EB	63	17th @ Lane WB	90
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
Walmart West	62	13th @ Tyler Towers	10
Topeka @ 15th NB	7	17th @ Clay WB	6
West Ridge Mall	7	17th @ Wanamaker WB	6
17th @ College EB	6	Topeka @ 15th SB	6
18th @ Atwood EB	6	17th @ Western WB	5

Source: DoubleMap, 2021

Figure 53: Route 17 Weekday Ridership

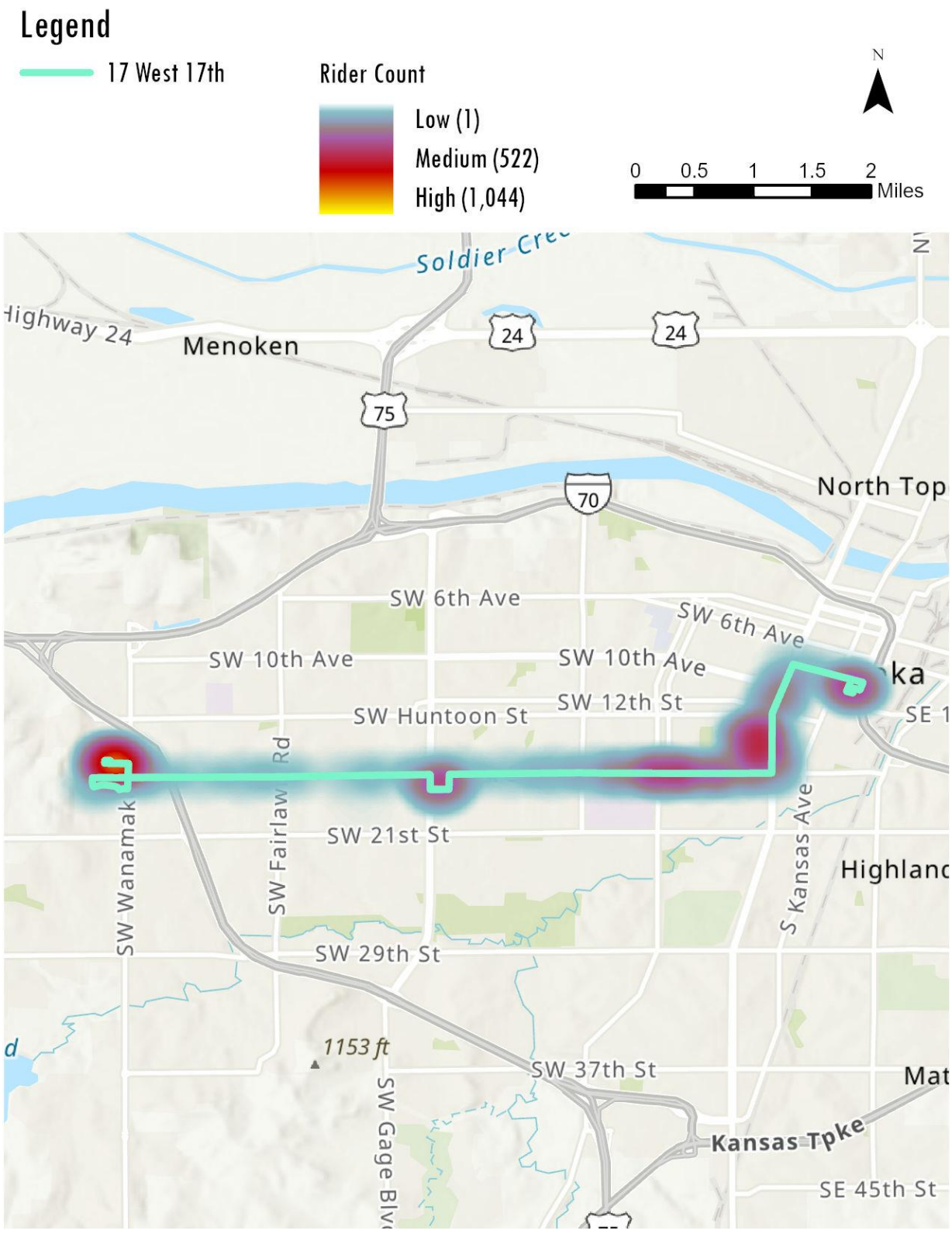
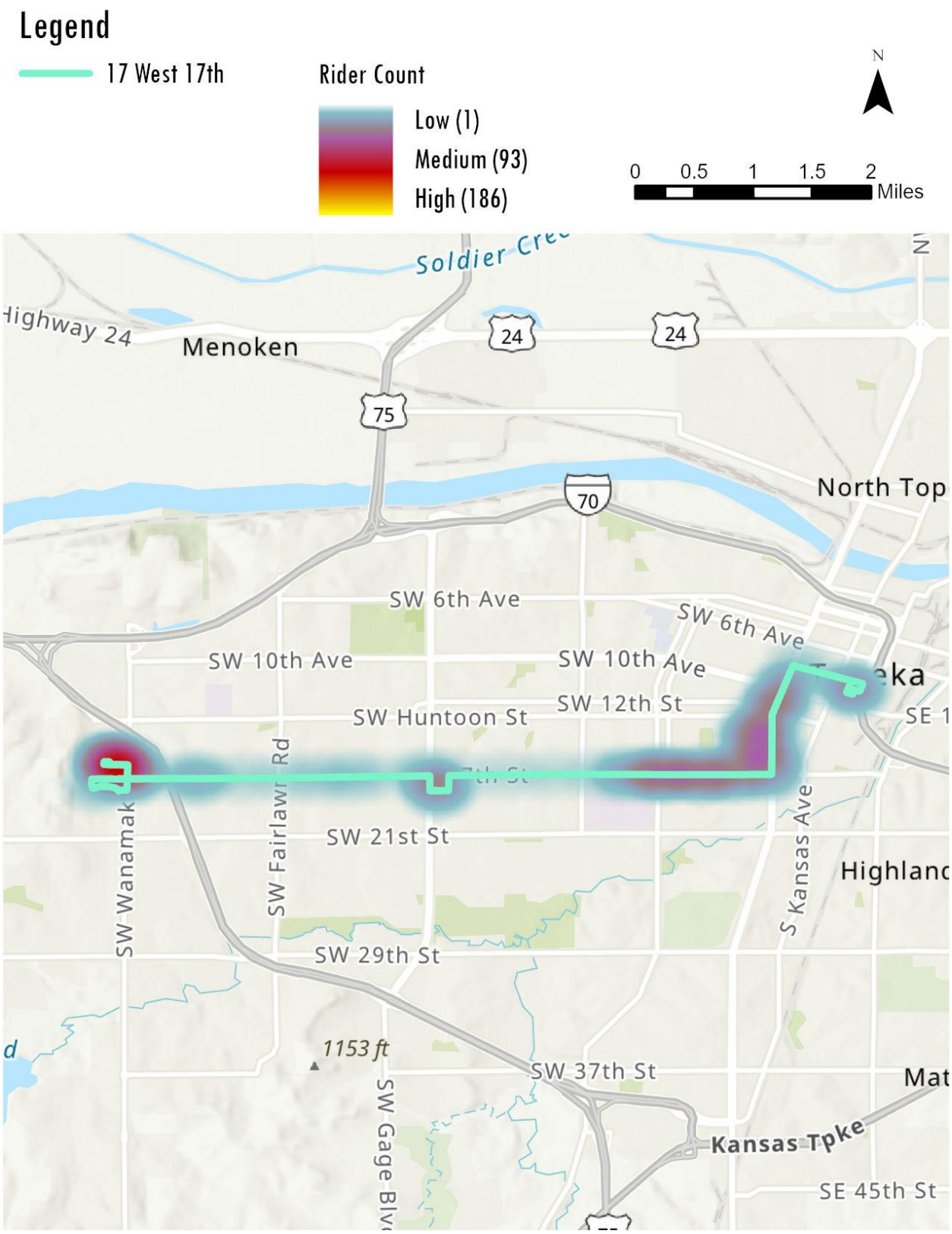


Figure 54: Route 17 Saturday Ridership



Summary

In general, Route 17 has high weekday and Saturday ridership. Weekday productivity, however, is ranked 9th out of 12. The four primary areas of ridership are the QSS, Topeka and 17th, Gage and 17th/First Christian Church Food Distribution, and West Ridge Mall/Walmart West. There is also strong boarding activity near Washburn University. Similar to some of the other east-west routes there are portions of the route that have low ridership activity. This a consistent pattern of peaks and valleys of ridership activity on the corridors between downtown and Wanamaker. There may be opportunities for different treatments on the western portion of the route that may include microtransit. This may be true for a portion of the service areas west of Gage Boulevard that may be better served with microtransit service connecting the neighborhoods to the Wanamaker corridor.

Route 21 West 21st

Route 21 travels east and west in central Topeka and connects downtown to the West Ridge Mall, as shown in **Figure 55**. On weekdays, the route operates between 6:15 AM and 6:40 PM. On Saturdays, the route operates between 8:15 AM and 6:10 PM.

Route 21 serves the Kansas ExpoCenter, Washburn University, the Topeka Veterans Affairs Medical Center, Topeka West High School, and retail clusters at the West Ridge Mall/Walmart West locations. Approximately 9,200 residents live within a ¼ mile of the route. There are also approximately 12,600 jobs within a ¼ mile of the route.

As shown in **Table 31**, this route serves, on average, 168 passengers during each weekday. This route ranks 6th out of 12 for average weekday ridership. Saturdays rank the highest of any route with 146 passengers per Saturday, on average. This route operates 30-minute frequencies during peak weekday periods and 60-minute frequencies during off-peak weekday periods. For all periods on Saturday, the route operates 60-minute frequencies.

Key Destinations

- QSS
- Topeka West High School
- Washburn University
- Topeka Veterans Affairs Medical Center
- West Ridge Mall
- TARC (2701 Randolph Avenue)

Table 31: Route 21 West 21st Characteristics

At a Glance		West 21st (Route 21)
Average Weekday Ridership		168
Rank		6th out of 12
Weekday Revenue Hours		19.0
Weekday Passengers per Revenue Hour		8.8
Rank		10th out of 12
Average Saturday Ridership		146
Rank		1st out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		14.6
Rank		1st out of 12
Span of Service	Mon – Fri	6:15 AM – 6:40 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	30
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Boardings by Time of Day

Weekdays had steady boardings throughout the day with peak ridership at 3 PM as shown in **Figure 56**.

Route 21 ranks first for Saturday ridership and 2nd for Saturday passengers per hour. The boardings were mostly between 25 and 35 per hour – the strongest Saturday performer as shown in **Figure 57**. This route provides connections to the West Ridge Mall and connects to substantial retail areas along the Wanamaker corridor, which may lead to the strong Saturday numbers overall.

Figure 55: Route 21 Weekday Boardings by Time of Day

May 2021

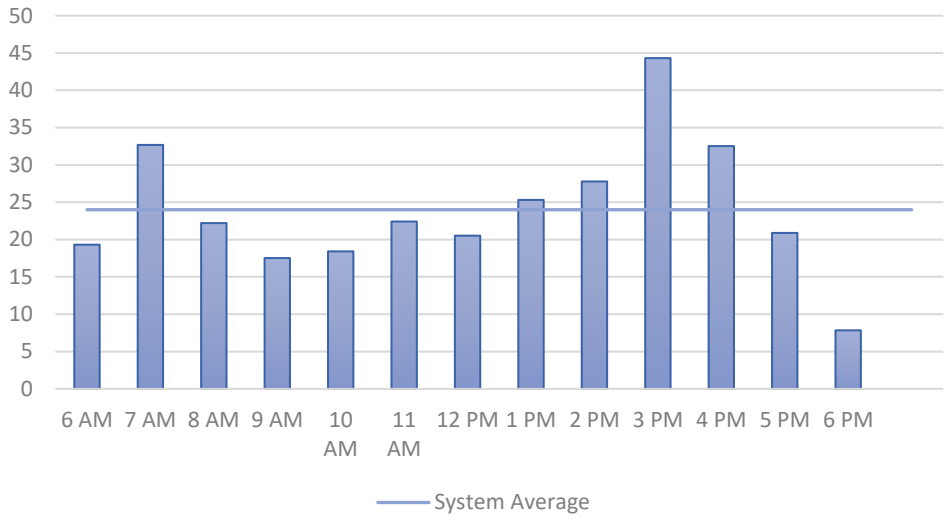


Figure 56: Route 21 Saturday Boardings by Time of Day
May 2021

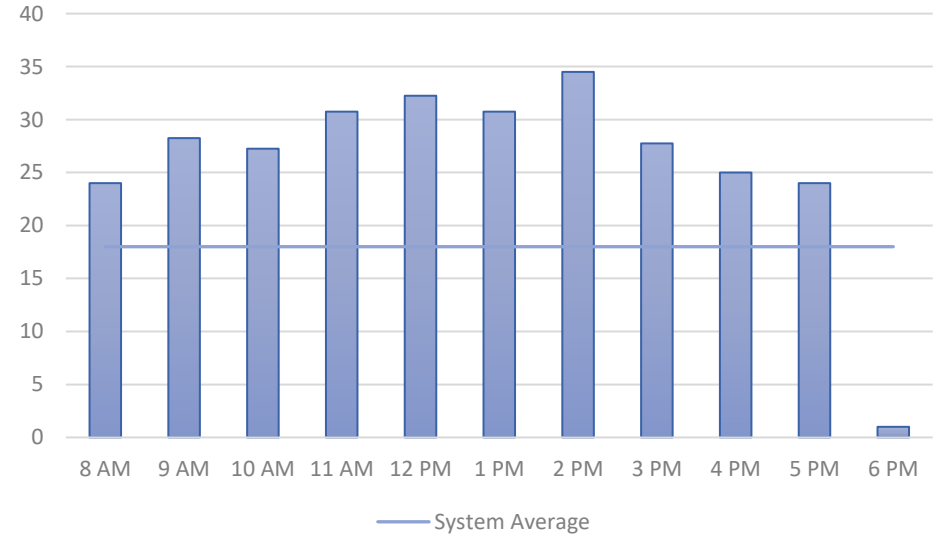
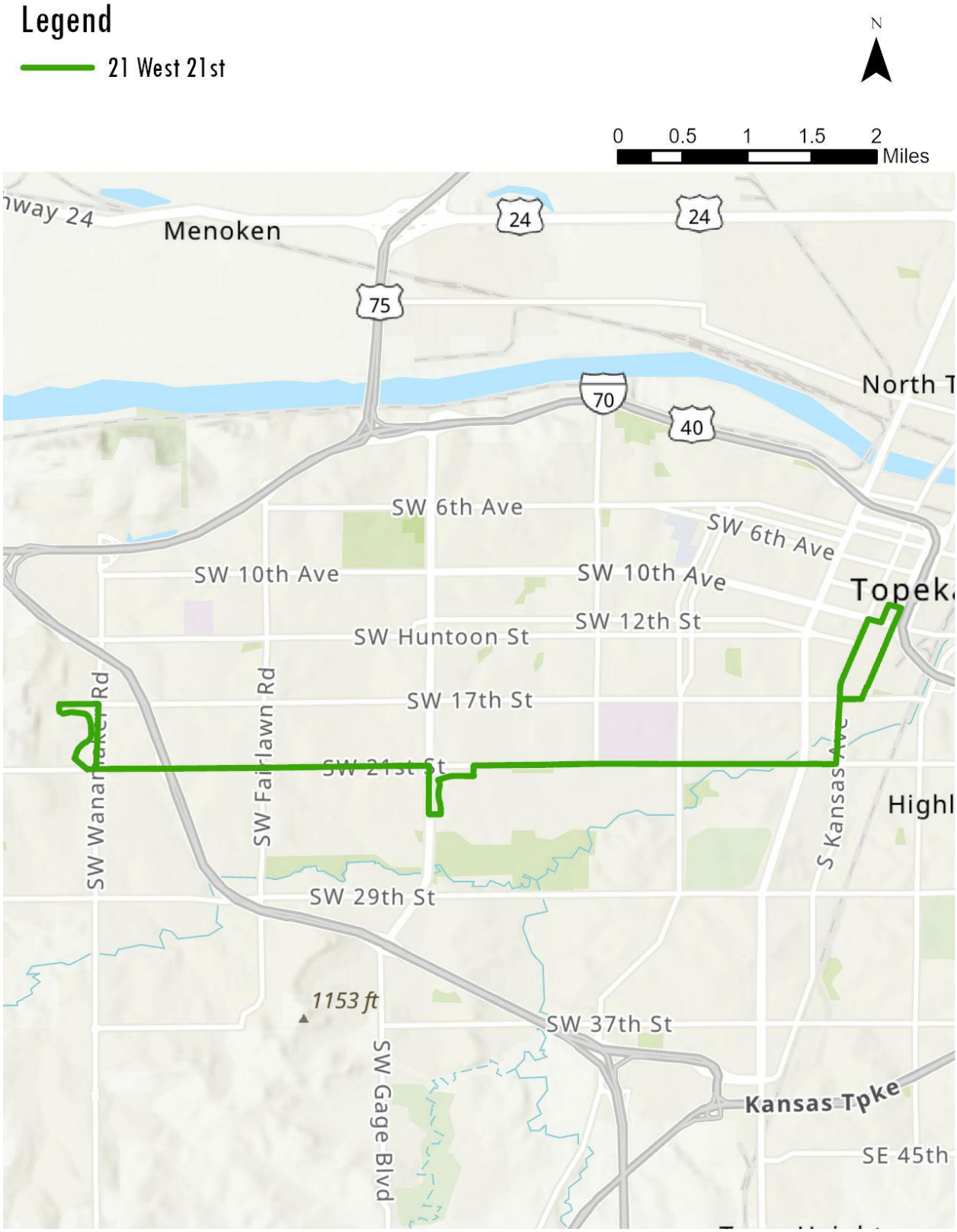


Figure 57: Route 21 West 21st



Ridership Observations and Trends

Figure 58 and **Figure 59** show the weekday and Saturday ridership activity for May 2021. The areas with the highest ridership for weekdays and Saturday are similar, but Saturday is more pronounced, especially in the West Ridge Mall/Walmart West area. This route likely sees a lot of Saturday retail and shopping trips. The highest activity on the route is around the Topeka West High School and the Fairlawn Retail Plaza. Additionally, Route 21 provides connections to Washburn University and saw moderate ridership activity in that area.

Route 21 is a strong performing Saturday route, ranking 1st for Saturday average ridership and 1st for passengers per revenue hour. The western part of this route, from the high school to West Ridge Mall, had the highest ridership activity of the route. This shows the potential need for more focused service along the Wanamaker corridor that may not be tied into the pulse at the QSS.

Table 32, below, shows the top five boarding locations for May 2021 (both inbound and outbound). Retail uses saw the most boarding activity along this route, notably the West Ridge Mall and a Dillons at the Fairlawn retail plaza (21st Avenue and Fairlawn Road). The Kohls just north of the West Ridge Mall (17th Street) is also a high boarding location – further indicating high retail ridership for this route.

Table 32: Route 21 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
West Ridge Mall	163	21st @ Fairlawn WB	167
21st @ Fairlawn EB	122	21st @ Belle WB	91
21st @ Belle EB	85	21st @ Mission (Gage) WB	83
21st @ Ashworth (Wanamaker) EB	85	21st @ Ashworth WB	64
17th @ Kohl's EB	84	VA 2	59
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
17th @ Kohl's EB	31	21st @ Fairlawn WB	31
West Ridge Mall	29	21st @ Mission (Gage) WB	27
21st @ Ashworth (Wanamaker) EB	22	21st @ Belle WB	25
21st @ Fairlawn EB	18	21st @ Ashworth WB	23
21st @ Chelsea (Fairlawn Plaza) EB	18	21st @ Washburn WB Rt 21	17

Source: DoubleMap, 2021

Figure 58: Route 21 Weekday Ridership

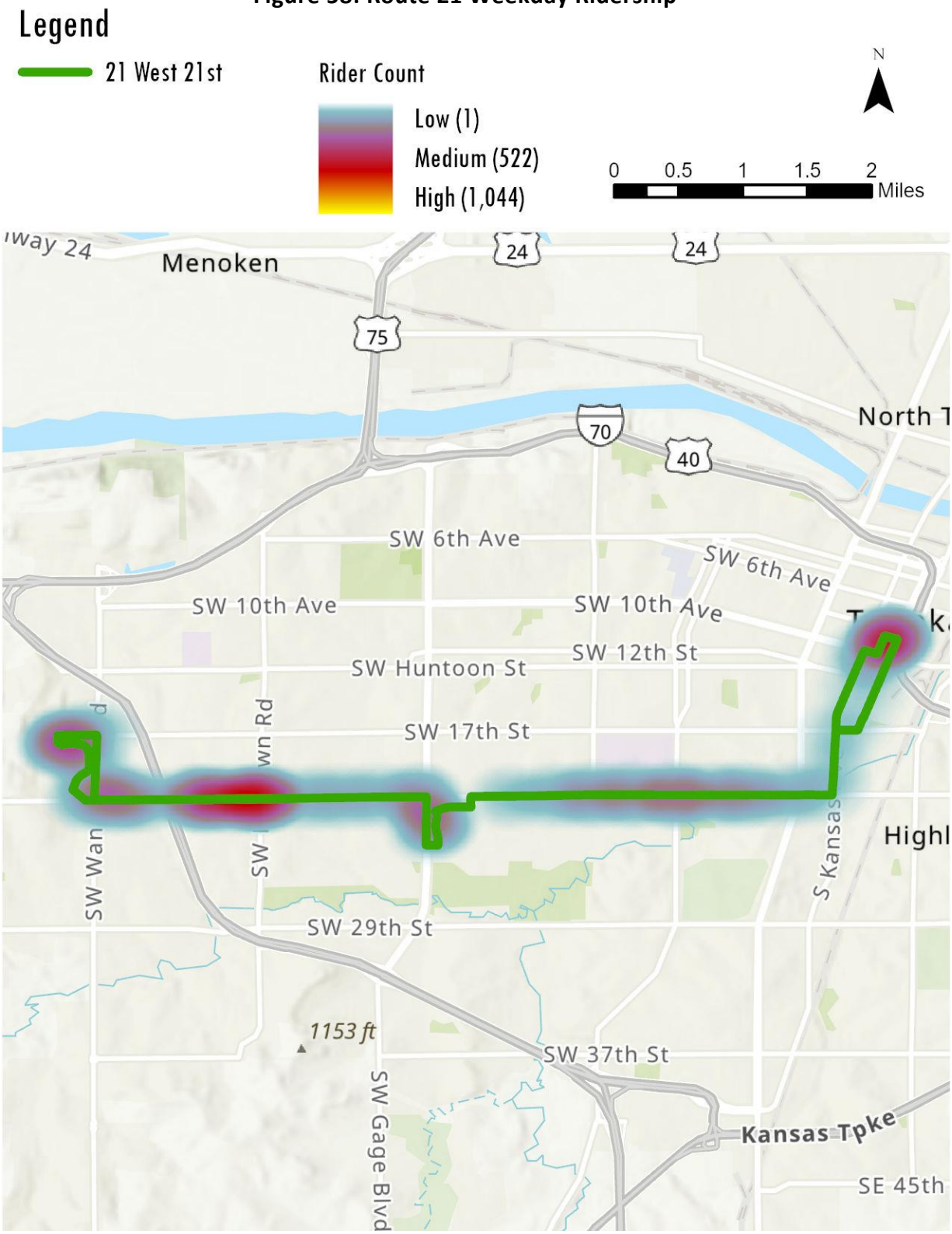
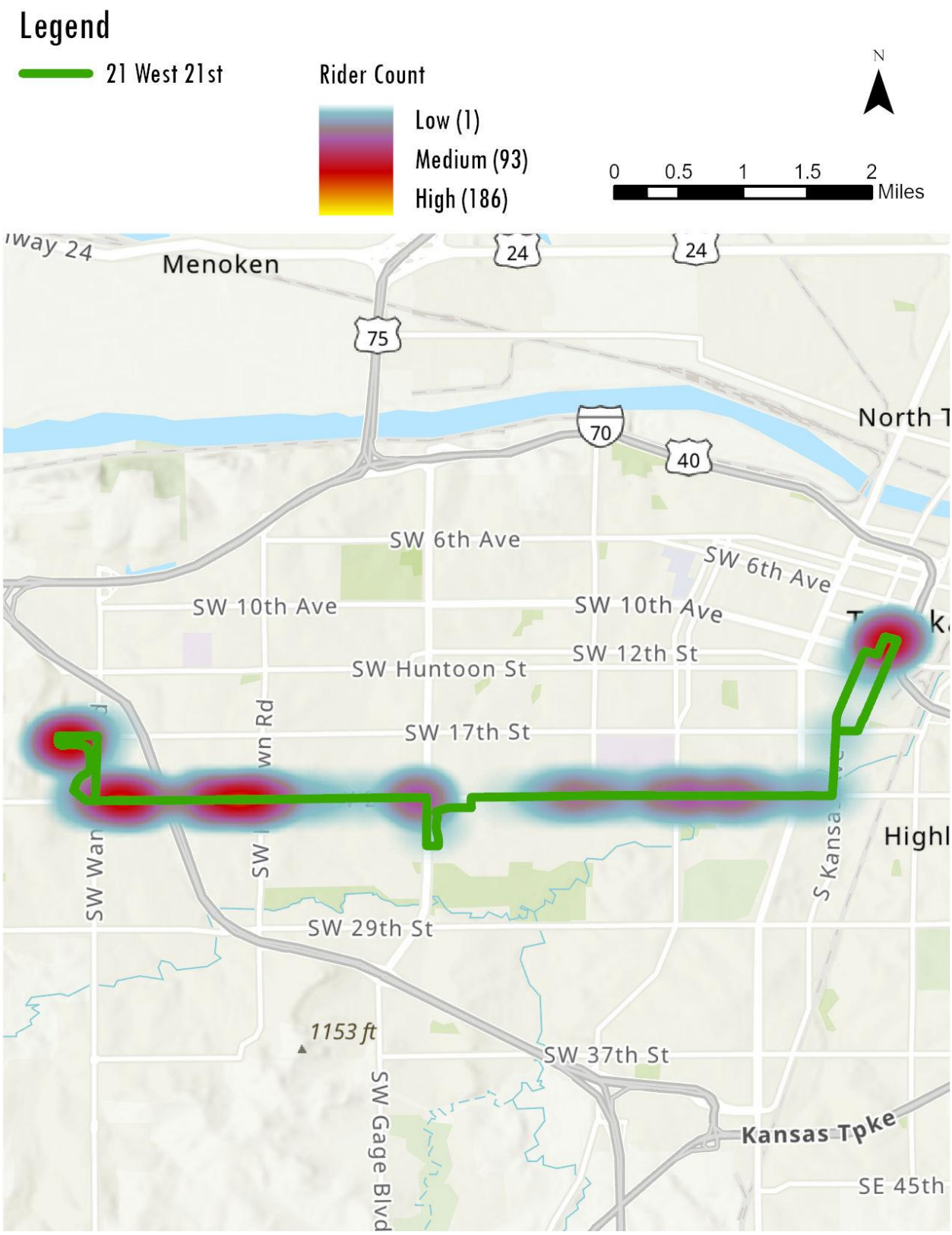


Figure 59: Route 21 Saturday Ridership



Summary

This route was in the middle tier for weekday ridership and 10th for weekday passengers per revenue hour, however, the Saturday average ridership and Saturday passengers per revenue hour were ranked first and second, respectively. The western portion of the route has very strong ridership due to the high school on weekdays and the shopping activity from the Dillon's at Fairlawn to the retail along Wanamaker. This is an interesting ridership trend as most of the other east-west routes had lower ridership on the westside of the service area. The strength of this route over the entire corridor makes it a strong service to continue to operate as is. With strong ridership activity on the afternoon Saturday trips, there may be a need for later service accommodate potential weekend demand.

Route 29 West 29th

Route 29 travels north and south along Kansas Avenue and then east and west predominately along West 29th Street. It begins at the QSS in downtown Topeka and ends near the Dillons grocery at the intersection of 29th Street and Urish Road, as shown in **Figure 60**. On weekdays, the route operates between 6:15 AM and 6:10 PM. On Saturday, the route operates between 8:15 AM and 6:10 PM.

Route 29 serves neighborhoods such as Quinton Heights and Southwest Topeka. The land uses along this route are predominantly low density residential and commercial. The route includes the city's only HyVee grocery store (at Wanamaker Road). This area, known as Villa West, also includes a high number of medical uses, such as doctor offices and dentist offices, among others. Approximately 12,400 residents live within a ¼ mile of the route. There are also approximately 14,400 jobs within a ¼ mile of the route.

As shown in **Table 33**, this route serves, on average, 137 passengers during each weekday. This route ranks 10th out of 12 for average weekday ridership. Route 29 has the weakest performing Saturdays of any route –Saturday average ridership ranks 12th. This route operates on 60-minute frequencies Monday through Saturday for both peak and off-peak periods.

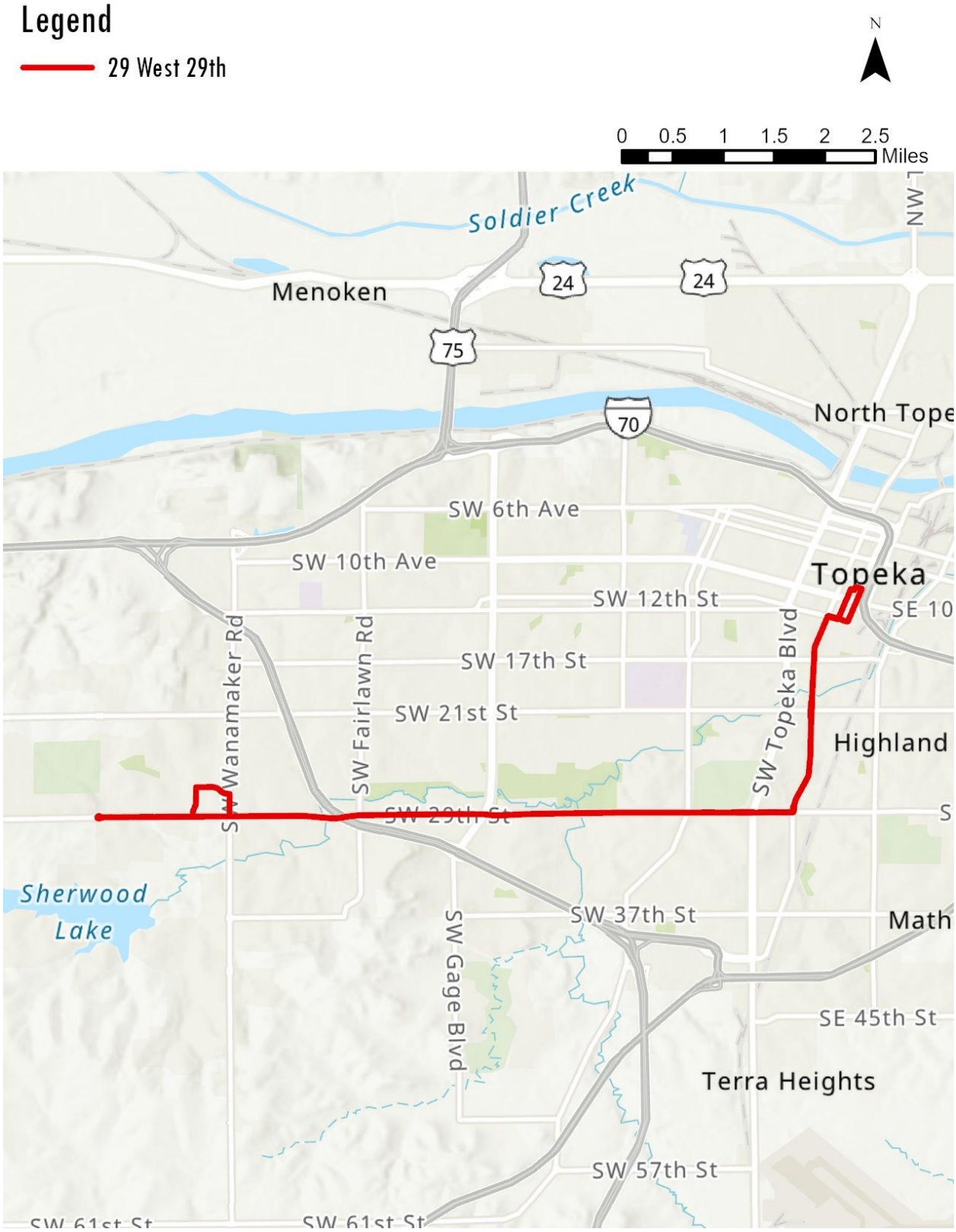
Key Destinations

- QSS
- Brookwood Shopping Center
- Kansas Department of Motor Vehicles
- Dillons Southwest
- HyVee

Table 33: Route 29 West 29th Characteristics

At a Glance		West 29th (Route 29)
Average Weekday Ridership		137
Rank		10th out of 12
Weekday Revenue Hours		12.0
Weekday Passengers per Revenue Hour		11.4
Rank		5th out of 12
Average Saturday Ridership		39
Rank		12th out of 12
Saturday Revenue Hours		10.0
Saturday Passengers per Revenue Hour		3.9
Rank		12th out of 12
Span of Service	Mon – Fri	6:15 AM – 6:10 PM
	Sat	8:15 AM – 6:10 PM
Peak Frequency	Mon – Fri	60
	Sat	60
Off-Peak Frequency	Mon – Fri	60
	Sat	60

Figure 60: Route 29 West 29th



Boardings by Time of Day

Weekday boardings were fairly consistent throughout the day with about 20 to 30 boardings each trip. The route had the most boardings, on average, around 4 PM during weekdays. Route 29 saw the sharpest increase in boardings during the late-afternoon as shown in **Figure 61**.

For Saturdays, the boardings were less evenly distributed hour to hour as shown in **Figure 62**. The 9 AM hour had the greatest number of boardings. Contrary to patterns seen during weekdays, Saturdays, on average, saw the highest boardings during the morning hours. The boardings for Route 29 were significantly lower than the system average for Saturdays.

Figure 61: Route 29 Weekday Boardings by Time of Day
May 2021

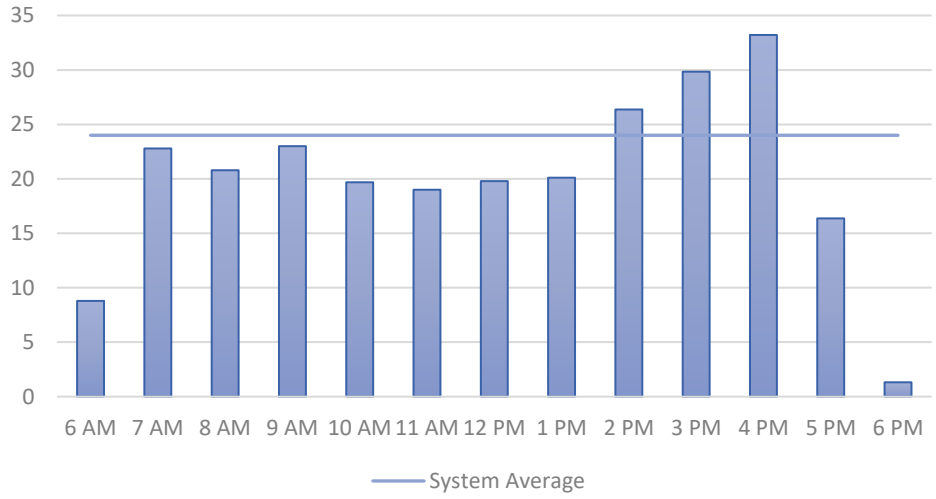
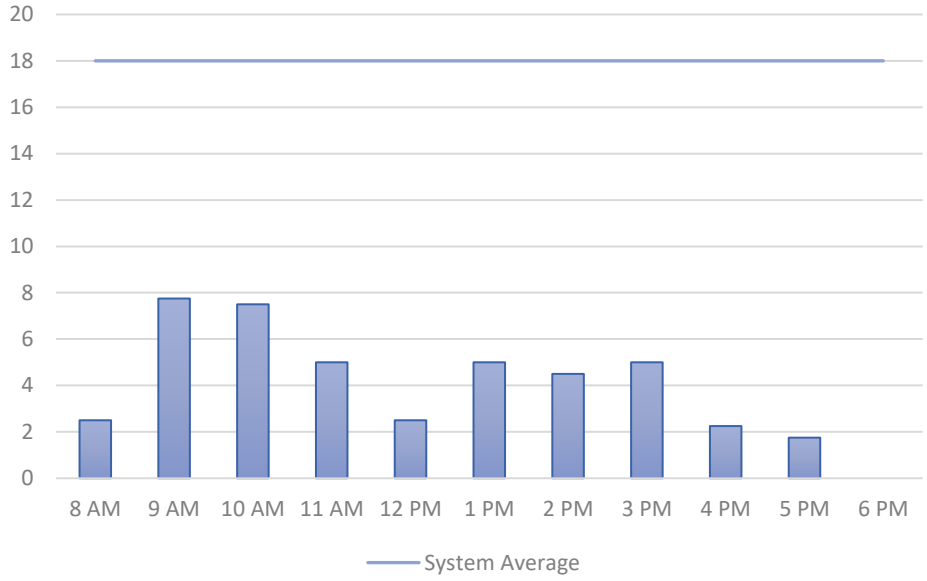


Figure 62: Route 29 Saturday Boardings by Time of Day
May 2021



Ridership Observations and Trends

Figure 63 and **Figure 64** show the weekday and Saturday ridership activity for May 2021. This area has some low-density commercial buildings, but notably, a handful of large apartment complexes, which likely drive the ridership activity. Overall, however, Route 29 had fairly low ridership activity when compared to other routes.

For Saturdays, the Gage Boulevard and 29th Street intersection is a strong ridership generator for this route likely due to the high density of apartments at this location. The intersection of 27th Street and South Kansas Avenue is the location of Rueger Ball Park (recreational park) and the Kansas State Driver's License Exam Station (i.e., the Department of Motor Vehicles). This location saw moderate ridership, likely driven by the Department of Motor Vehicles and the recreational park. Ridership between these activity centers is fairly even and light.

The intersection of Fairlawn Road and 29th Street had more pronounced ridership on weekdays but also substantial ridership on Saturdays. This area is a retail and restaurant hub that has fast food, big box stores, and other periphery retail stores.

For both weekday and Saturdays, shopping centers on the west side of the route saw modest ridership activity for Route 29. The Villa West Shopping Center, at the intersection of Wanamaker Road and 29th Street had ridership activity. Farther west, a Dillons grocery store at Urish Road and surrounding retail/medical uses generate a moderate ridership for this route.

Table 34, below, reports the top five boarding locations for May 2021 (both inbound and outbound). As is expected from the generally low ridership for this Route, the boarding activity was less than seen in other routes. The Brookwood Shopping Center at the intersection of 29th Avenue and Oakley Avenue

saw the most activity. There was not data available for Saturdays for May 2021 but it can be expected the activity was similarly lower than activity seen in other routes.

Table 34: Route 29 Top Five Boarding Locations (May 2021)

Weekdays			
Inbound	**Total**	**Outbound**	**Total**
29th @ Oakley EB	131	29th @ Gage WB	89
29th @ Atwood (Gage) EB	104	29th @ Oakley WB	88
29th @ Van Buren EB	66	29th @ Wanamaker WB	78
29th @ Urish EB	49	29th @ Van Buren WB	77
29th @ Arnold EB	43	29th @ Randolph WB	68
Saturdays			
Inbound	**Total**	**Outbound**	**Total**
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	

Source: DoubleMap, 2021

Figure 63: Route 29 Weekday Ridership

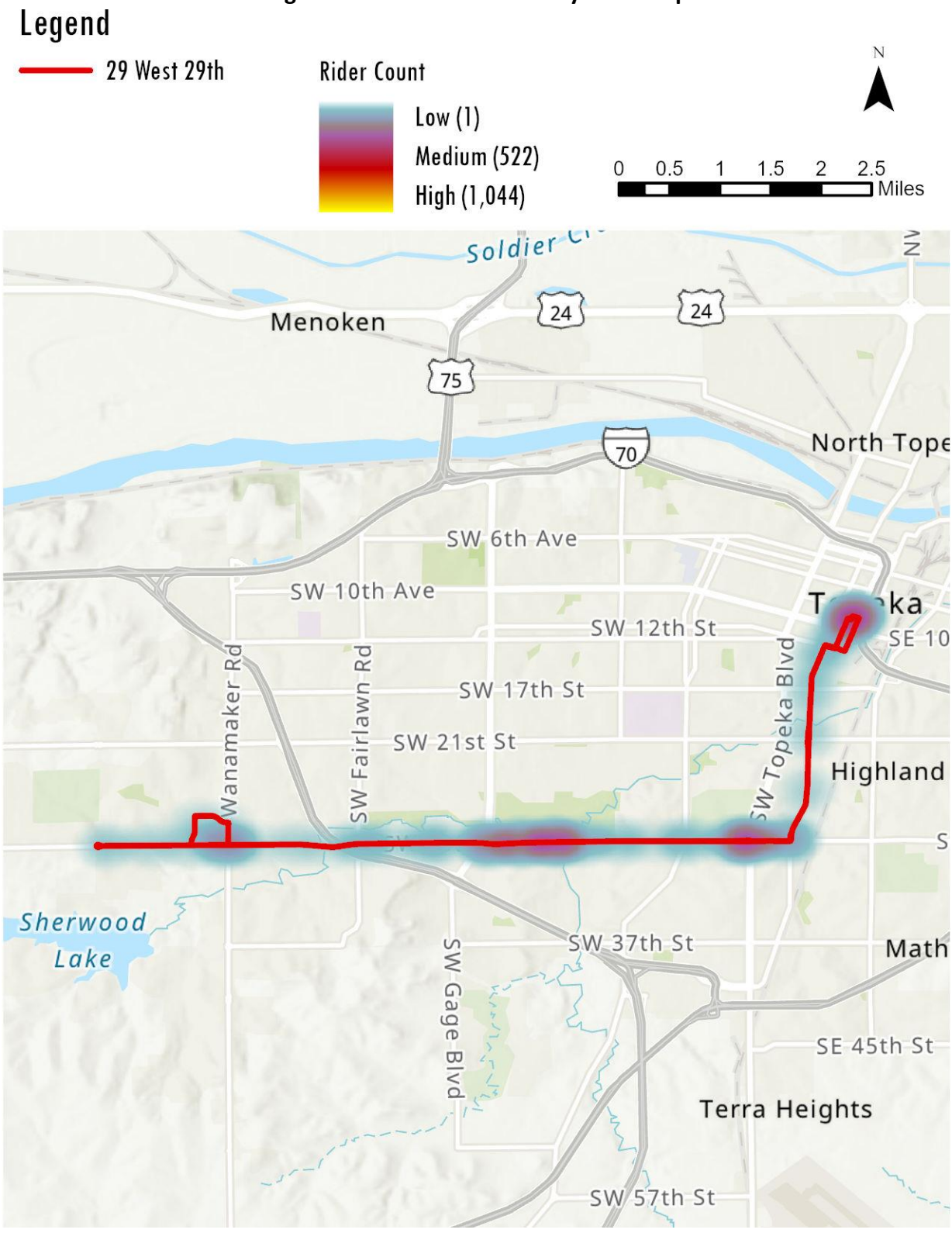
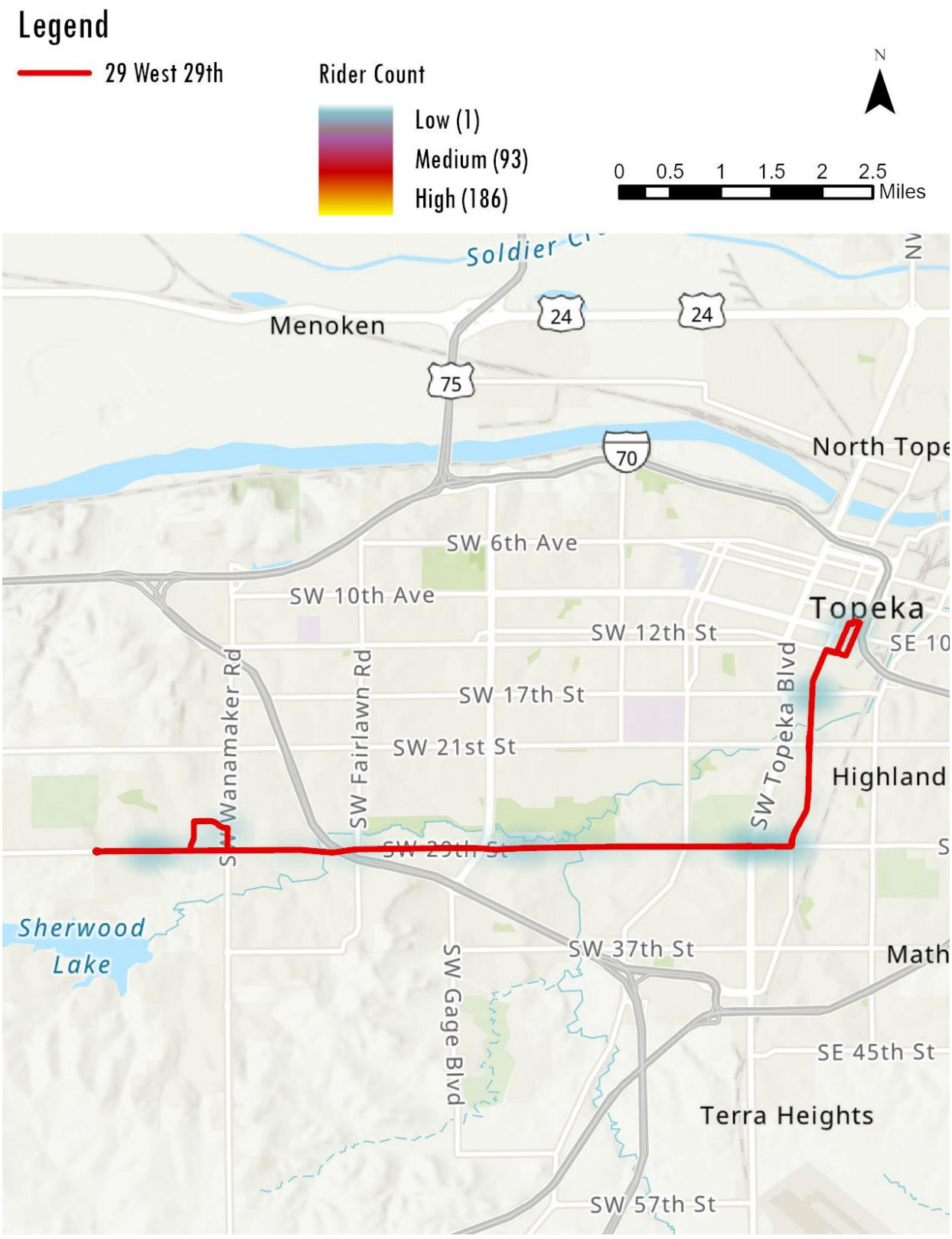


Figure 64: Route 29 Saturday Ridership



Summary

This route is not a strong performer in terms of average ridership and passengers per revenue hour during weekdays or Saturdays. On weekdays, the route ranked 10th (with 137) for weekday ridership. For Saturday weekday passengers and passengers per revenue hour, Route 29 ranked last. Weekday productivity was ranked 5th.

Though this is a lower performing route, it still likely provides vital transit services to residents in apartment complexes near the intersection of Gage Boulevard and 29th Street. On Saturdays, the activity is focused on shopping nodes and recreational areas, such as Rueger Ball Park.

Route 29 travels a long distance compared to other routes as it has to cycle in an hour from QSS to Urish Road and 29th Street. There may be opportunities to look at other treatments for the corridor including a crosstown or a microtransit zone on the western side of the route that would connect into a future Wanamaker corridor route. The western portion of the route may also be a candidate for a microtransit zone.

Service Analysis and Recommendations

The Service Analysis is intended to provide a clear understanding of how the system performs today and to lay out a roadmap for the future. As part of the plan, this document provides a recommended Service Plan and Implementation Plan for Topeka Metro service in the near term. The recommendations presented in this plan are designed to build off of the key findings and issues described in the previous sections. The proposed service plan focuses on improving the overall route network through more direct routing and right-sizing the system by utilizing different service delivery options.

Overview of System Changes

The service plan is based on the technical analysis from previous tasks as well as input from Topeka Metro staff and Board members. The plan is designed to address near term needs of the system to improve overall ridership and efficiency.

These key opportunities for improvement include the following:

- Introduce microtransit service as an option to expand coverage and serve low density and lower ridership areas more efficiently, such as southwest and southeast Topeka
- Introduce new crosstown routes on the Wanamaker and Gage corridors to provide more direct connections on the west side of the city
- Shift all westside transfer activity to the Walmart West transit center
- Streamline fixed routes to focus service on the more productive portions of the routes
- Right-size headways to better match ridership demand and to reallocate resources to new services such as crosstowns and microtransit

The service plan is intended to be implemented over the next two years with phasing based on the agency's ability to start microtransit service. During this time of driver shortages across the country and in Topeka, it will also be important to have full staffing available for implementation. The service plan is a cost-neutral plan and will not require additional resources to implement.

Topeka Metro will need to continue to provide equitable service that meets the requirements of the Title VI Civil Rights Act of 1964 (Title VI). Title VI ensures that no person shall be excluded from participation in, denied benefits of or be subjected to discrimination on the basis of race, color, or national origin under any program receiving federal financial assistance.

Microtransit

The System Analysis service recommendations include a mix of service delivery options including fixed-route and microtransit. Microtransit is a transportation service that includes smaller vehicles with flexible, "on-demand" routing; partnerships between transit agencies and technology providers; and mobile apps for ride-hailing, navigation, and payment. Microtransit can provide improved access to transit for people and places that fixed bus routes do not serve well, more directly matched supply of service to the demand for rides, shorter wait times, and greater flexibility to hail a ride when you need one via an app or phone call.

Key areas of focus for microtransit include the following:

- First/last mile connections
- Service to low-density areas
- Service to low ridership areas
- Service to areas with smaller roads and are difficult to access with full-size bus

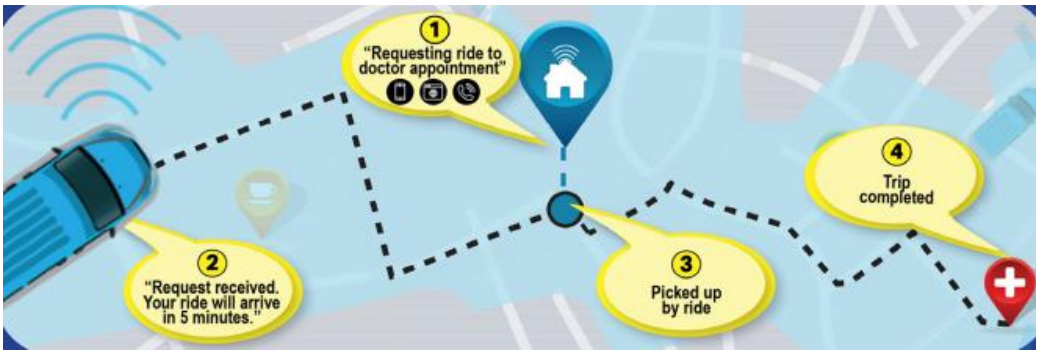
Microtransit service uses smaller vehicles to provide more flexibility in the areas it serves including neighborhoods and low-density commercial parks. Vehicles used for microtransit range from smaller minivans to larger cutaway buses. In some cases, microtransit service is provided by using a mixed service that combines the transit agency's wheelchair accessible vehicles with taxi or transportation network company (TNC) vehicles.

Figure 65 - Minivan from COTA Plus Microtransit, Columbus, OH

Source: Mass Transit

Microtransit service utilizes software that is designed to match riders with drivers and find the most efficient routing. In most cases, the software will bundle trips that are close together to create improved efficiencies.

Figure 66 - Microtransit Trip Overview



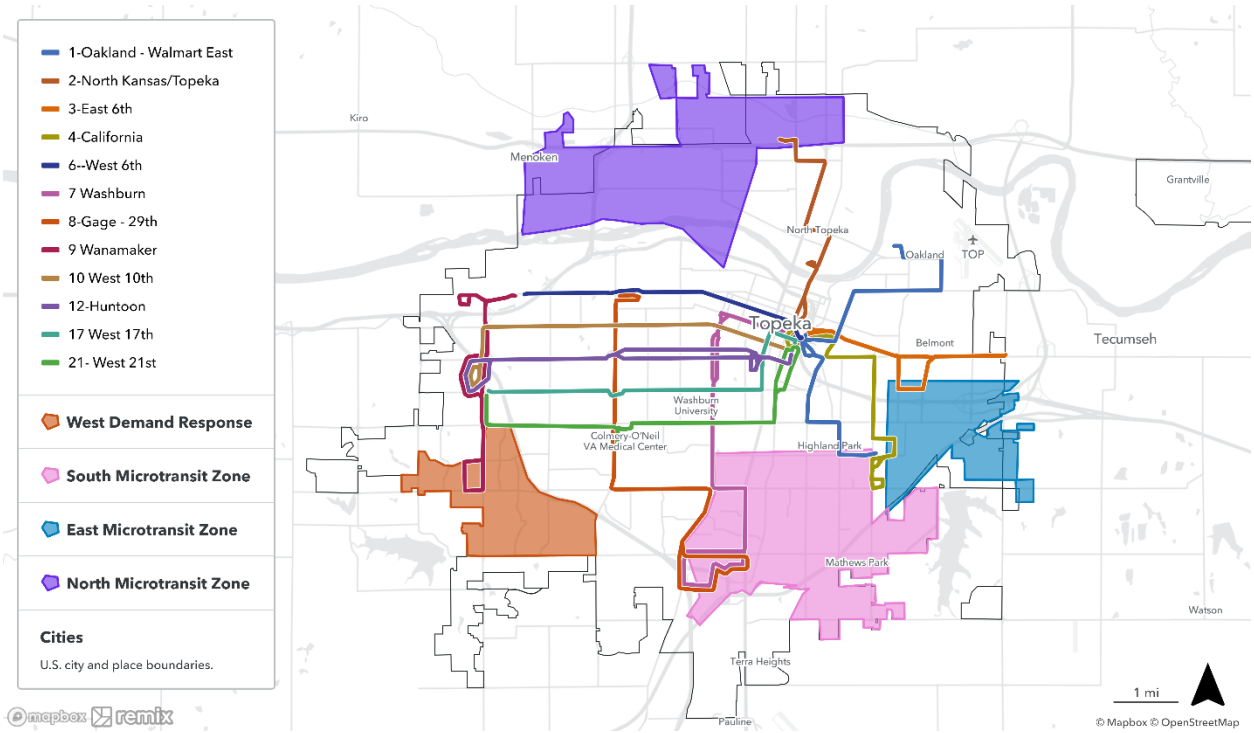
Source: AECOM

Microtransit service can be implemented with agencies purchasing the microtransit software and using their own vehicles and drivers or with a turnkey package where vendors operate the service and provide the technology.

Route-by-Route Recommendations

The following section provides a route-by-route overview of the service changes. **Figure 67** displays the recommended routes and zones.

Figure 67 - Recommended Topeka Metro Service Update



Weekdays

Route 1 – Oakland

The proposed Oakland Route operates segments north and south of the QSS with direct service to the Walmart East. The route starts at the northern terminus of Oakland Billiard Park and travels along the existing routing through the Oakland neighborhood east on Sardou Avenue, south on Strait Avenue, west on Seward Avenue, south on Branner Street, and east on 6th Avenue to access the QSS. From the QSS, the route continues south taking over a segment of the existing Route 5 Indiana to the Walmart. At the Walmart East the route will connect to Route 4 California, the East Microtransit zone, and the South Microtransit zone.

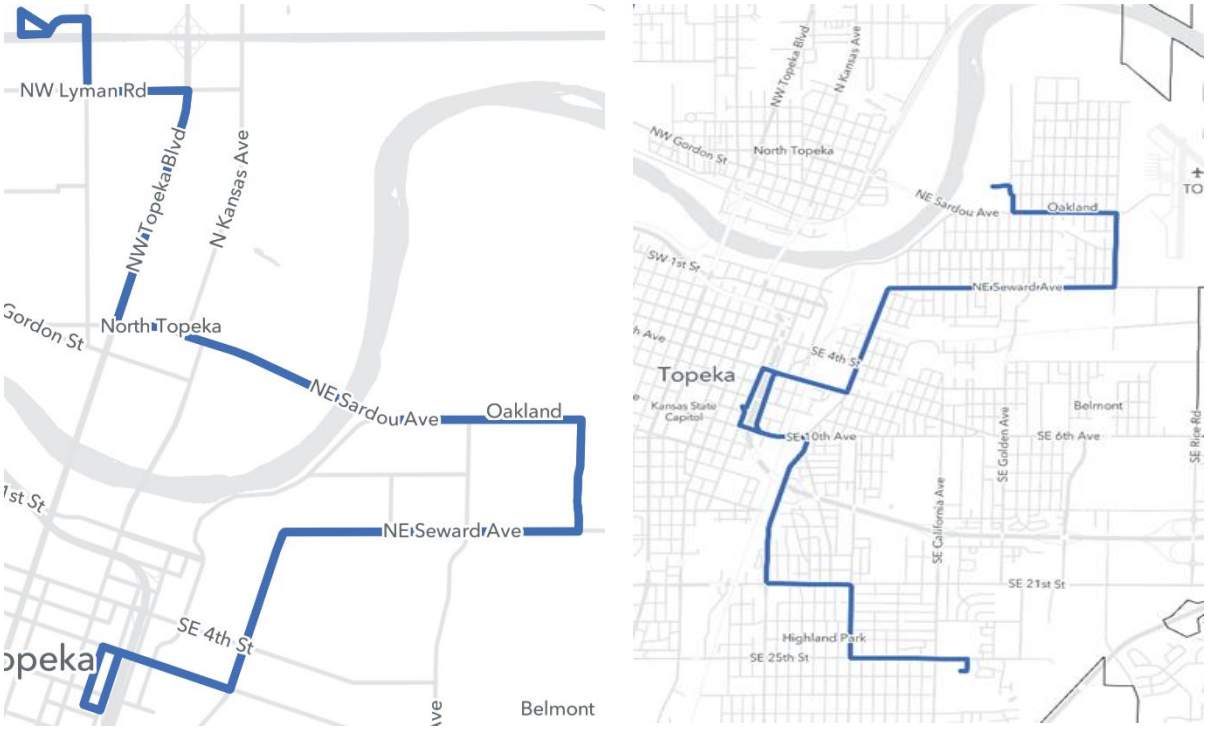
The route will continue to provide a direct connection between the Oakland neighborhood and the QSS for transfer opportunities and will introduce a new connection between the neighborhood and the Walmart East.

Portions of the existing route that operate on Morse Street and Topeka Avenue in North Topeka will be served by the new Route 2.

The route will operate at 60-minute headways Monday through Saturday.

As shown in **Figure 68**, Route 1 will continue to provide fixed-route service to the Oakland neighborhood but will no longer operate to the north Walmart and Dillons. Instead, the service will continue south with direct connections to the Walmart and Dillons on California.

Figure 68 - Route 1 - Existing and Proposed Routing



Route 1 Existing

Route 1 Proposed

Route 2 – North Kansas/Topeka Walmart

The Route 2 will continue to provide direct connections between the QSS, the Mission, and Walmart North and Dillons. The service will shift from Kansas Avenue to Topeka Avenue north of Morse Street, taking over a segment of the existing Route 1. Kansas Avenue in north Topeka has very low ridership activity and the area will still be within the ¼ mile walk distance of the new service.

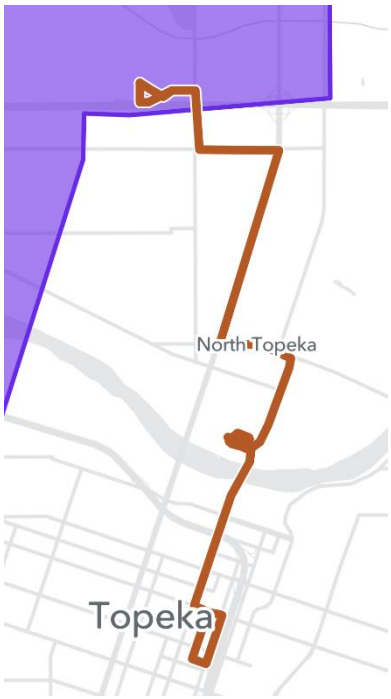
Route 2 will travel to the Walmart/Dillons via Lyman Road, Tyler Street, and 25th Street. The northern segment of the existing route serving the Woodland Park apartments will be served by the new North Microtransit zone. This area has low ridership and is an out-of-direction segment of the route.

The route will operate at 60-minute headways Monday through Saturday.

Figure 69 displays the changes to Route 2.

Figure 69 - Route 2 – Existing and Proposed Routing

Route 2 Existing



Route 2 Proposed

Route 3 – East 6th

Route 3 will continue to operate the same routing to East Topeka as the current service. As shown in **Figure 70**, the one change to the route will be the discontinuation of the low ridership segment on Rice Road south of 6th Street serving the Topeka Correctional Facility. The change will reduce the travel time of the route to help improve on-time performance. The correctional facility will be served by the new East Microtransit zone.

The route will operate at 30-minute headways Monday through Saturday.

Figure 70 - Route 3 - Existing and Proposed Routing

Route 3 Existing

Route 3 Proposed

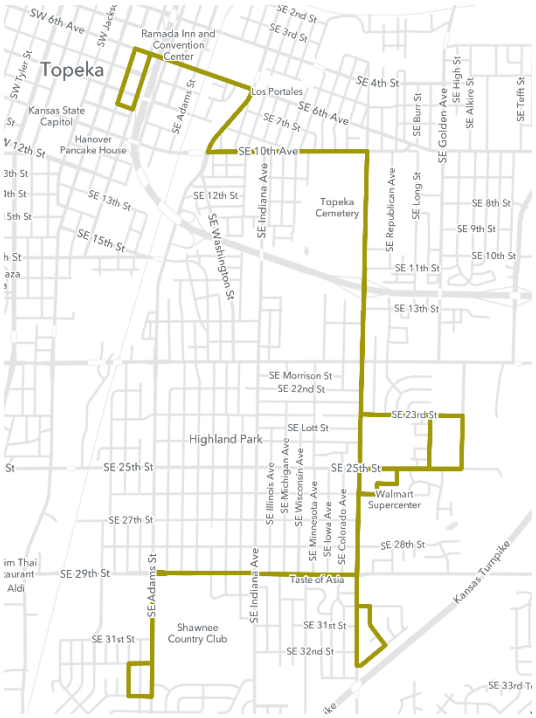
Route 4 – California

The Route 4 will continue the existing service from the QSS to Walmart East and the Dillons on 29th Street. The segment of the existing route south of 29th Street and west of California will be taken over by the new South Microtransit zone. The routing east of California Avenue has been changed to simplify the service to make it more user-friendly. The new route will operate southbound on California Avenue, east on 23rd Street, south on Bellview Avenue, west on 25th Street, south to the Walmart bus stop, and through the Walmart parking lot. The route will continue south on California Avenue, west on 28th Street, south on Powell Street with service to Dillons, east on 29th Street, and north on California Avenue. The route will continue to provide direct service to key activity centers including Highland Park High School, the multifamily residential area on Bellview, the Walmart and Dillons. **Figure 71** displays the proposed route changes.

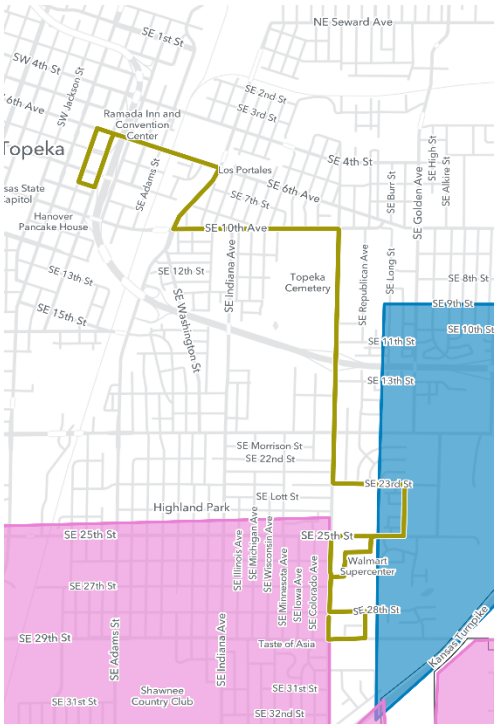
The lower ridership segments south of 29th Street will be unhooked from the route making it a more efficient service with direct connections to three other transit routes/zones.

The route will operate at 60-minute headways Monday through Saturday.

Figure 71 - Route 4 - Existing and Proposed Routing



Route 4 Existing



Route 4 Proposed

Route 6 – West 6th

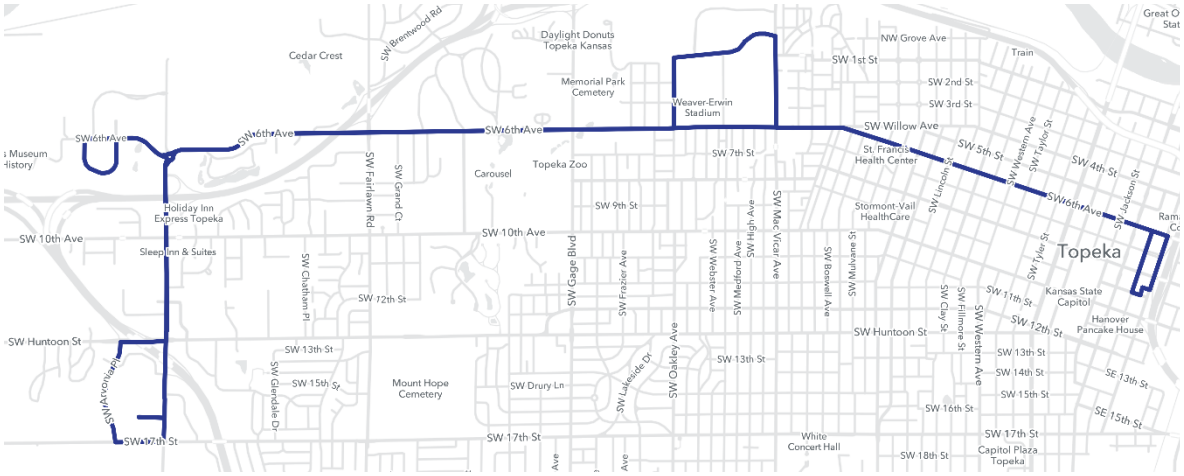
Route 6 will continue to operate on the same routing as the current service from the QSS to West 6th Street near I-70. The route will turn around at Rasmussen University, just west of I-70, and cycle back to the QSS. This short turn of the route will allow for the service to operate at 30-minute headways with one bus. In order to make the cycle time work, the loop north of West 6th Street serving the sports complex has been removed. The western portion of the existing Route 6 will be covered by a new Wanamaker route. The updated routing is shown in **Figure 72**.

It is important to note that the route does not have a lot of extra time for recovery and will need to be tested by Topeka Metro with a bus in a real-life environment. Route 6 may be interlined with another route with more time in the schedule to help offset any potential running time issues.

The route will operate at 30-minute headways Monday through Saturday.

Figure 72 - Route 6 - Existing and Proposed Routing

Route 6 Existing



Route 6 Proposed

Route 7 – Washburn

There are no proposed changes to Route 7 Washburn. In the new route network, the Route 7 will be an important link between the QSS and the Walmart South. It will connect to the new Route 9 Gage and the South Microtransit zone at the Walmart South.

The route will operate at 60-minute headways Monday through Saturday.

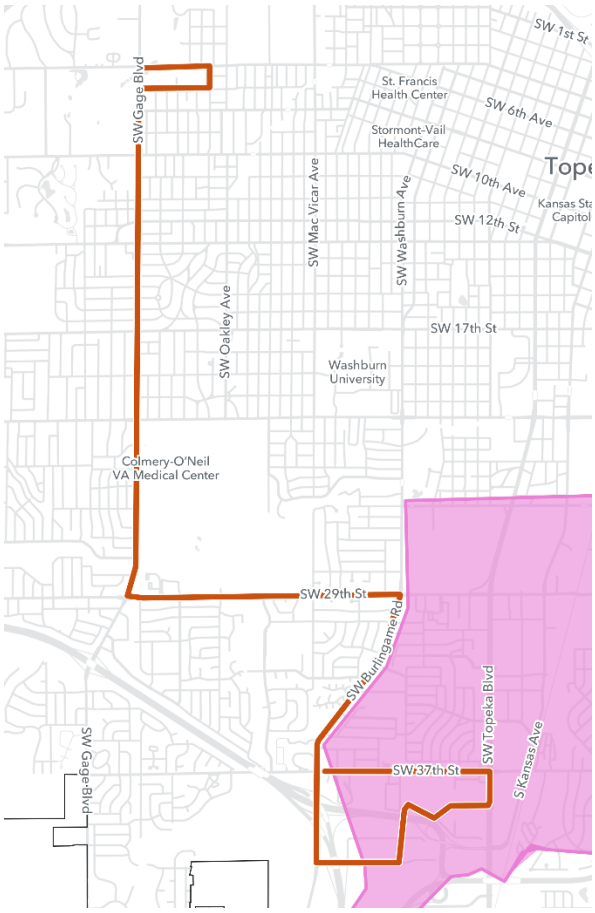
Route 8 – Gage – 29th Street

The proposed Route 8 (**Figure 73**) will be a new service operating along the Gage corridor from West 6th Avenue to the Walmart South via 29th Street, Topeka Boulevard, and 38th Street. Route 8 will continue south and west of Walmart to take over the loop to TARC from the existing Route 5 Indiana.

The route will serve the high ridership areas along the Gage corridor as it intersects with existing bus service especially at 10th Street and 17th Street. The route is designed to shorten trip times by allowing passengers to transfer to the new route for trips south and north along Gage without having to travel out of direction to the QSS or Walmart West.

The route will operate at 60-minute headways Monday through Saturday.

Figure 73 - Route 8 - Proposed Routing



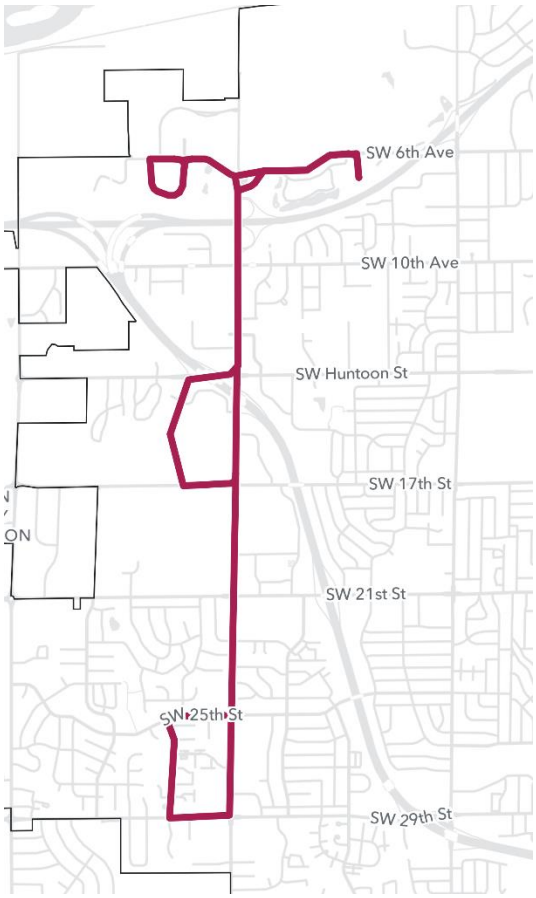
Route 9 – Wanamaker

The new Wanamaker route will operate from the Corporate View/Commerce Place Loop and Rasmussen University on West 6th south along the Wanamaker corridor to 29th Street and Villa West. The route will provide direct connections to other routes in the system at the Walmart West as well as at intersecting route locations along Wanamaker. In addition, the route will connect to the West Microtransit zone

between 25th and 29th streets. Although several routes operate on portions of Wanamaker in the existing system, this will be the first route to serve the entire corridor providing service to key retail and residential areas. This new crosstown route will not directly serve the QSS but instead, connect into the system at the Walmart West transfer center. The proposed routing is displayed in **Figure 74**.

The route will operate at 30-minute peak and 60-minute off-peak headways on weekdays and 60-minute headways on Saturdays. Route 9 will be one of two routes using two buses during the peak period to operate a 30-minute peak headway. It may be determined based on ridership that the route can serve the demand with 60-minute all-day headways. In this scenario, it is recommended that the additional bus be moved to the Route 17 for a 30-minute peak service.

Figure 74 - Route 9 - Proposed Routing

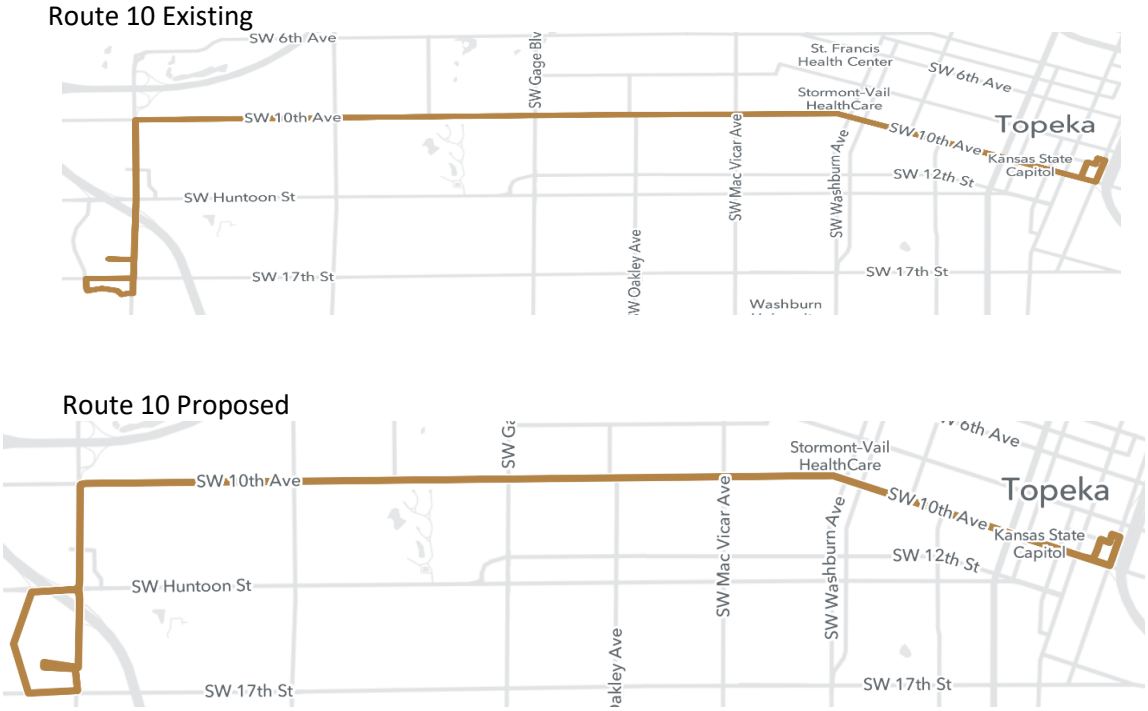


Route 10 – West 10th

The proposed Route 10, as shown in **Figure 75**, will operate the same service as the existing route except it will terminate service at the Walmart West instead of the West Ridge Mall on the west side of the route. The existing route has good ridership throughout the day and provides key connections between the QSS, Stormont Vail Hospital, the Topeka and Shawnee County Public Library, and the Wanamaker corridor. The route is currently in the top tier for both passengers per hour and ridership. To maintain this level of service, there are no major changes proposed for the route.

The route will operate 30-minute peak and 60-minute headways on weekdays and 60-minute headways Saturdays.

Figure 75 - Route 10 - Existing and Proposed Routing



Route 12 – Huntoon

There are no changes proposed for the Route 12. Based on the ridership analysis, the route has strong boarding activity on the eastern portion of the route. There is also some boarding activity at key intersections including Gage and Fairlawn, however the area between Washburn and Gage has lower ridership. The recommendation for the Route 12 is to remove the 30-minute peak headways and shift it to an all-day 60-minute headway based on its current ridership and productivity.

Route 17 – West 17th

Route 17 has the third-highest ridership in the system but also has the fourth-lowest passengers per revenue hour. The data shows that it is a strong route however there may be too much service (frequency) on the route. Based on the analysis, the recommendation for Route 17 will be to maintain the current routing but to reduce the headway from 30-minute peak service to 60-minute all day. It is an important service that provides connections from the QSS, Washburn University, and the Wanamaker corridor and may be part of further analysis in the future to potentially bring back the 30-minute peak service. There are no recommended service changes to the route.

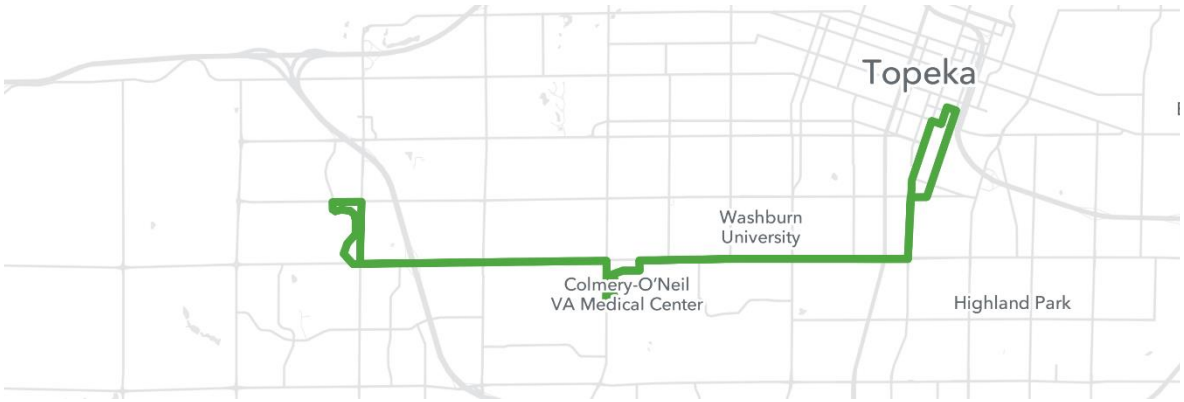
Route 21 – West 21st

Route 21 has average ridership and slightly lower than average productivity compared to other routes. The recommendation for the Route 21 is to keep the existing routing with a shift from the West Ridge Mall to the Walmart West on the western terminus, as shown in **Figure 76**. It is also recommended to reduce the headways to 60-minute all-day service from the 30-minute peak service.

The route will operate at 60-minute headways Monday through Saturday.

Figure 76 - Route 21 - Existing and Proposed Routing

Route 21 Existing



Route 21 Proposed

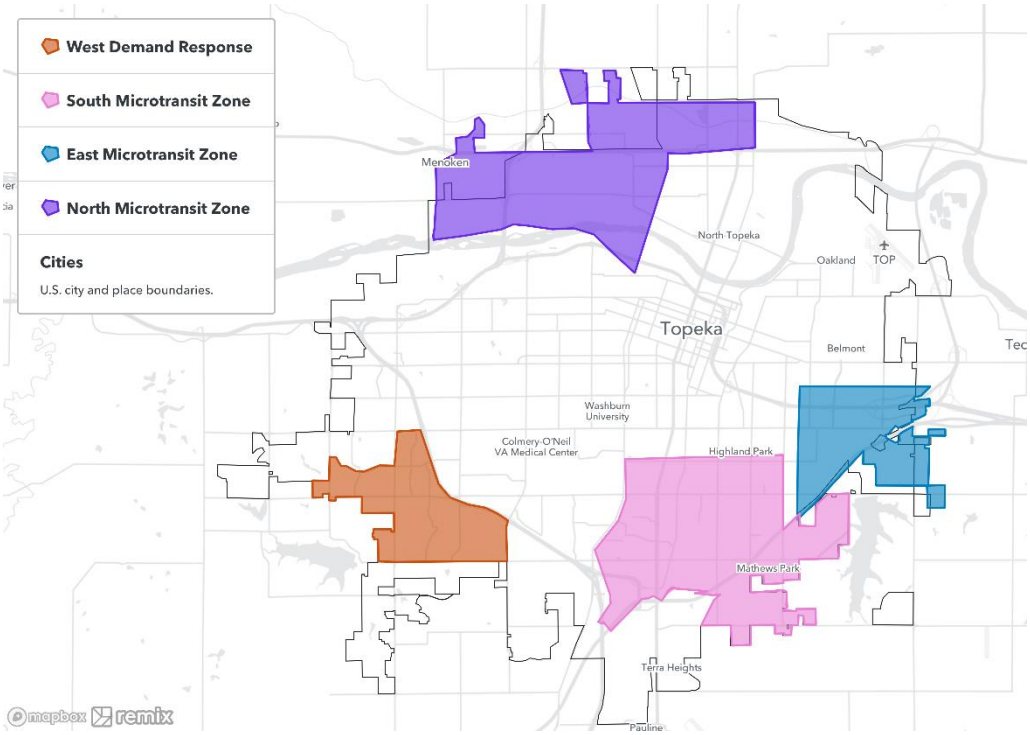
Route 10S – West 10th Specials

There are no changes proposed to the West 10th Specials service.

Microtransit Zones

There are four microtransit zones proposed as part of the service plan. The zones will provide service in areas where poor performing route segments have been removed. The microtransit will also provide coverage to areas of Topeka that are not currently on the fixed route system. The microtransit service is meant to complement the recommended fixed routes to provide an overall more efficient route network. **Figure 77** shows the locations of the microtransit zones.

Figure 77 – Proposed Microtransit Zones



North Microtransit

The North Microtransit zone will provide new service to the residential and employment centers north of the Kansas River and west of Topeka Avenue. The service will also serve the Walmart North, Dillons, and Walnut Grove. Prior to starting this service, it is recommended that Topeka Metro staff work with the employers in the area to understand their needs and shift times. The introduction of the service will be implemented in coordination with the changes to Routes 1 and 2.

The zone will have a time point at the Walmart North bus stop (every 60 minutes) for transfers to Routes 1 and 2.

East Microtransit

The proposed East Microtransit zone will take over the existing Flex Zone. It will continue to serve the Walmart East, Dillons, Highland Park High School, and the residential area to the east of California Avenue. There may be opportunities for this zone to expand and take over portions of the South zone based on demand and resources. Although the Flex Zone currently has very low ridership, there may be opportunities to increase demand by expanding the zone to the south as well as offering the new dynamic service provided by microtransit.

The route will have a time point at the Walmart East (every 60 minutes) for connections to Route 1 Oakland and 29th, Route 4 California, and the South Microtransit zone.

South Microtransit

The south microtransit zone is the largest of the four zones. The boundaries between the East and South zones should be evaluated through the vendor's microtransit simulation model prior to implementing the service. The zone will take over portions of the existing Route 4 California and Route 5 Indiana.

These segments were not performing well in ridership and productivity and are better aligned with demand response service. The South Microtransit zone provides connections to both the Walmart East and Walmart South as well as the Route 7 Washburn and Route 9 Gage at the Walmart South and the Route 1 Oakland and Route 4 California at the Walmart East. The area of Topeka south of 25th Street has lower-density neighborhoods and some retail and commercial uses. The focus of the zone is to continue to provide transit service but to expand the coverage and right size it with demand response service.

West Microtransit

The West Microtransit zone is a new service taking over portions of the western part of the existing Route 29 and adding coverage to new areas south of 29th and west of Wanamaker. The route will connect with the Route 8 Wanamaker and Route 10 West 10th and could be extended to have trips to the Walmart West transit center. The Route 29 is one of the lowest-performing routes in the system and the low-density land use in southwest Topeka is better suited for demand response microtransit service.

Saturdays

The route network on Saturdays will be the same as the weekday service. All Saturday routes will operate 10 hours per day with 60-minute headways.

Impacts of Service Changes

The primary objective of the service plan is to update the system based on changes to ridership patterns within the community. The recommendations are focused on providing direct trips, right-sizing service based on the market, and introducing new services to improve overall mobility. An overview of the changes between the existing system and the proposed system is provided below:

- **Route 1 Oakland** – the northern portion of the route along Topeka Boulevard will be served by Route 2 North Kansas/Topeka
- **Route 2 North Kansas** – the segment on Kansas Avenue north of Morse will be discontinued but portions of it will continue to be within a ¼ mile of the new routing. The apartments along Walnut Grove Drive will no longer be directly served by Route 2 but will be part of the new North Microtransit zone.
- **Route 3 East 6th** – The segment along Rice Road will be discontinued from Route 3 but will be served by the new East Microtransit zone.
- **Route 4 California** – The southern portion of the route south of 29th Street and west of California will be taken over by the new South Microtransit zone.
- **Route 5 Indiana** – The Indiana route will be discontinued. The northern portion of the route between QSS and Walmart will become part of the new Route 1 Oakland and the southern portion of the route will be served by the new South Microtransit zone.
- **Route 6 West 6th** – the new route will short turn at Rasmussen University just west of the I-70. The western portion of the route will become part of the new Wanamaker route.
- **Route 7 Washburn** – no changes to the route.
- **Route 10 West 10th** – The western terminus will shift from the mall to the Walmart.
- **Route 12 Huntoon** – no changes to the route.
- **Route 17 West 17th** – The western terminus will shift from the mall to the Walmart.
- **Route 21 West 21st Street –** The western terminus will shift from the mall to the Walmart.
- **Route 29 West 29th Street –** The route will be discontinued. The western portion of the route from Fairlawn Road to Urish Road will be served by the new West Microtransit zone. The segment of 29th Street between Kansas Avenue and Gage Boulevard will be served by the South Microtransit zone and the new Gage Route. The two areas that will no longer have direct service:
    - 29th Street between Gage Boulevard and Fairlawn Road
    - Kansas Avenue between 25th and 27th Streets

Some route numbers and names have been updated as part of this study. Topeka Metro may decide to use a different numbering system and new names prior to implementation. In addition, a new branding will be needed for the microtransit system. For the purposes of this study, we have used the term microtransit, however, a new brand for the service type will make it stand out and become a unique mobility service offered within the Topeka Metro system. We would recommend something different than the current Flex naming convention for the east zone. Microtransit services in other communities

often highlight the flexibility or connectivity of the service using names such as “Link”, “Pickup”, “Connect” and “Go”.

The number of vehicles recommended for each microtransit zone was based on our initial analysis. Further evaluation will be needed prior to implementation. The microtransit vendors will perform simulation model runs to better define the demand within each zone and to balance the number of vehicles and the wait times.

Key benefits of the recommended plan include:

- Improved all-day 30-minute frequency on Route 6
- Expanded coverage throughout the service area with four new microtransit zones
- New service along the Wanamaker and Gage corridors to improve travel times and to open new markets to the Topeka Metro service
- Less out of direction travel in the western part of the service area with new crosstown routes
- Maintain the core network of service
- Improve the efficiency of service with microtransit in low ridership areas
- Develop tiers of service based on productivity and ridership

Operations Plan

The recommended service plan will operate the same span of service as the current system. The service will operate for about 12 hours on Weekdays (6:15 am – 6:30 pm) and 10 hours on Saturdays (8:15 am – 6:15 pm). It is assumed that each microtransit zone will require one bus on weekdays and a half bus (one bus shared between two zones) on Saturdays. Prior to implementation, the selected microtransit vendor will run simulation models to provide a more accurate vehicle requirement for each zone. **Tables 35 and 36**, below, illustrate the proposed service plan characteristics.

Table 35 - Weekday Service Characteristics

Route	Name	TRAVEL TIME	FREQUENCY		VEHICLES		Weekday Revenue Hours
		Peak	Peak	Base	Peak	Base	
1	**Oakland**		60	60	1.0	1.0	12.3
2	**North Kansas**		60	60	1.0	1.0	12.0
3	**East 6th**		30	30	1.0	1.0	12.3
4	**California**		60	60	1.0	1.0	13.0
6	**West 6th**		30	60	1.0	1.0	12.3
7	**Washburn**		60	60	1.0	1.0	13.0
8	**West Gage - 29th**		60	60	1.0	1.0	13.0
9	**Wanamaker**		30	60	2.0	1.0	19.0
10	**West 10th**		30	60	2.0	1.0	17.3
12	**Huntoon**		60	60	1.0	1.0	12.3
17	**West 17th Current**		60	60	1.0	1.0	12.0
21	**West 21st**		60	60	1.0	1.0	13.0
Demand Response	North				1.0	1.0	12.0
	East				1.0	1.0	12.0
	South				1.0	1.0	12.0
	West				1.0	1.0	12.0
					18.00	16.00	209.25

Table 36 - Saturday Service Characteristics

Route	Name	TRAVEL TIME	FREQUENCY		VEHICLES		Weekday Revenue Hours
		Peak	Peak	Base	Peak	Base	
1	**Oakland**		60	60		1.0	10.0
2	**North Kansas**		60	60		1.0	10.0
3	**East 6th**		30	30		1.0	10.0
4	**California**		60	60		1.0	10.0
6	**West 6th**		30	60		1.0	10.0
7	**Washburn**		60	60		1.0	10.0
8	**West Gage - 29th**		60	60		1.0	10.0
9	**Wanamaker**		30	60		1.0	10.0
10	**West 10th**		30	60		1.0	10.0
12	**Huntoon**		60	60		1.0	10.0
17	**West 17th Current**		60	60		1.0	10.0
21	**West 21st**		60	60		1.0	10.0
Demand Response	North					1.0	10.0
	East						
	South					1.0	10.0
	West					1.0	10.0
						15.00	150.00

Topeka Metro currently operates 218 daily revenue hours on weekdays and 120 revenue hours on Saturdays. The proposed weekday operations will require 209 daily revenue hours for weekdays and

150 daily revenue hours on Saturdays. This represents a decrease of 9 revenue hours on weekdays and an increase of 30 revenue hours on Saturdays. The changes in revenue hours are from the reduction of peak period frequency on some routes from 30-minutes to 60-minutes. The increase in revenue hours on Saturdays is due to the addition of the microtransit routes. For Saturdays the plan proposes to have the East and South zones share one bus. The number of vehicles needed to operate the four zones on Saturdays will be three instead of four.

Revenue hours overall will decrease with the new service plan on an annual basis due to Saturdays only occurring once a week as opposed to the savings for weekdays which occur five times per week. The current system operates 62,048 revenue hours and the proposed network operates with 61,304 annual revenue hours, a reduction of 744 annual revenue hours.

The services are designed to be implemented all at once or phased in over time. The phasing of the service plan will be based on the timing of the new microtransit contract. We would recommend the following phased approach:

- Phase 1 – Transition the current Flex Zone to a new East Microtransit zone
- Phase 2 – Reduce headways, add Wanamaker route, change Route 4 California, add South Microtransit zone
- Phase 3 – Make remaining changes

When replacing fixed route service with microtransit it is recommended to operate both services simultaneously over a period of a week to a month to allow riders adapt to the new service.

Capital Needs

Additional capital investment is needed to implement the new fixed routes on Wanamaker and Gage. Although Wanamaker has some bus stop infrastructure in place from existing service, new bus stop signs and poles will need to be purchased and installed at new proposed stops along the two corridors. There may also be some capital investment with removing existing stops in areas that are transitioning from fixed route to microtransit zones. These areas are primarily in the southern part of the system on portions of the existing Indiana, California, and West 29th Street routes. It may be determined that some of the bus stop infrastructure will remain to provide key nodes for virtual microtransit stops. A bus stop assessment will need to be completed prior to the implementation of the microtransit service.

In addition, software and tablets will need to be purchased for the new microtransit service. Topeka Metro will need to solicit bids for either technology-only or turnkey service from microtransit vendors. Costs for technology-only will be significantly lower, but this option only works if Topeka Metro has a sufficient number of drivers and buses to operate the service.

Implementation Plan

The following section outlines the recommended implementation plan.

Year 1 – FY 2022

- Hold public meetings for input on service changes
- Present recommendations to Board for approval
- Define performance measures and service standards for fixed-routes and microtransit
- Develop a system to monitor and track data for NTD and the performance measures for both fixed-route and microtransit
- Have drivers test drive new routes
- Meet with microtransit vendors for informational purposes
- Select between software-only or turnkey microtransit service
- Issue an RFP for microtransit service
- Update schedules and runcut
- Work with Marketing to develop a new brand for microtransit
- Work with Marketing to develop a strategy to promote and advertise the new route network
- Add and remove bus stops based on the recommendations
- Initiate marketing campaign to promote new service
- Update marketing materials to reflect changes to the system
- Select microtransit vendor
- Have vendor run microtransit simulations to develop plan for number of vehicles and average wait times
- Implement Phase1
- Implement Phase 2

Year 2 – FY 2023

- Continue to monitor the performance of fixed-route and microtransit services to track the system after the Phase 1 implementation
- Update performance measures based on data collected after Phase 1 implementation
- Update microtransit boundaries and service as needed
- Continue marketing campaign
- Implement Phase 3