

CHAPTER 1 – TRANSIT MARKET AREAS AND EXISTING SERVICE

Transit Market Areas

While several factors influence the propensity to use transit, the primary predictors of transit productivity are the density of development at the origin and destination of trips. Transit markets in the seven-county region are identified using the Transit Market Index, which is calculated using three primary factors: 1) population density 2) employment density and 3) transit-reliance of the population as measured by the availability of automobiles. This Transit Market Index measures the potential market for transit services in a given area. Different types and levels of transit services are appropriate for each transit market area.

As identified in the regional 2030 Transportation Policy Plan (TPP), the region has five distinct Transit Market Areas. Transit Market Area I has the highest density of population, employment and people who rely on transit. Because of this, Market Area I is able to support the most intensive levels of transit service. Transit Market Area II has high to moderately high population and employment densities, yielding a market area that is conducive to fixed-route transit operations, but not as intensive as in Market Area I. Transit Market Area III has moderate density and can support a variety of transit services, but at lower intensity than Market Areas I and II. Transit Market Area IV has lower concentrations of population and employment. This market may be able to support peak-period express bus services, if a sufficient concentration of commuters likely to use transit service is located along a corridor or can be attracted to a park and ride. The low population and employment densities of Transit Market Area V increase the complexity and challenge of matching transit service to transit need. Due to very low-intensity land uses, these areas generally cannot support regular-route transit.

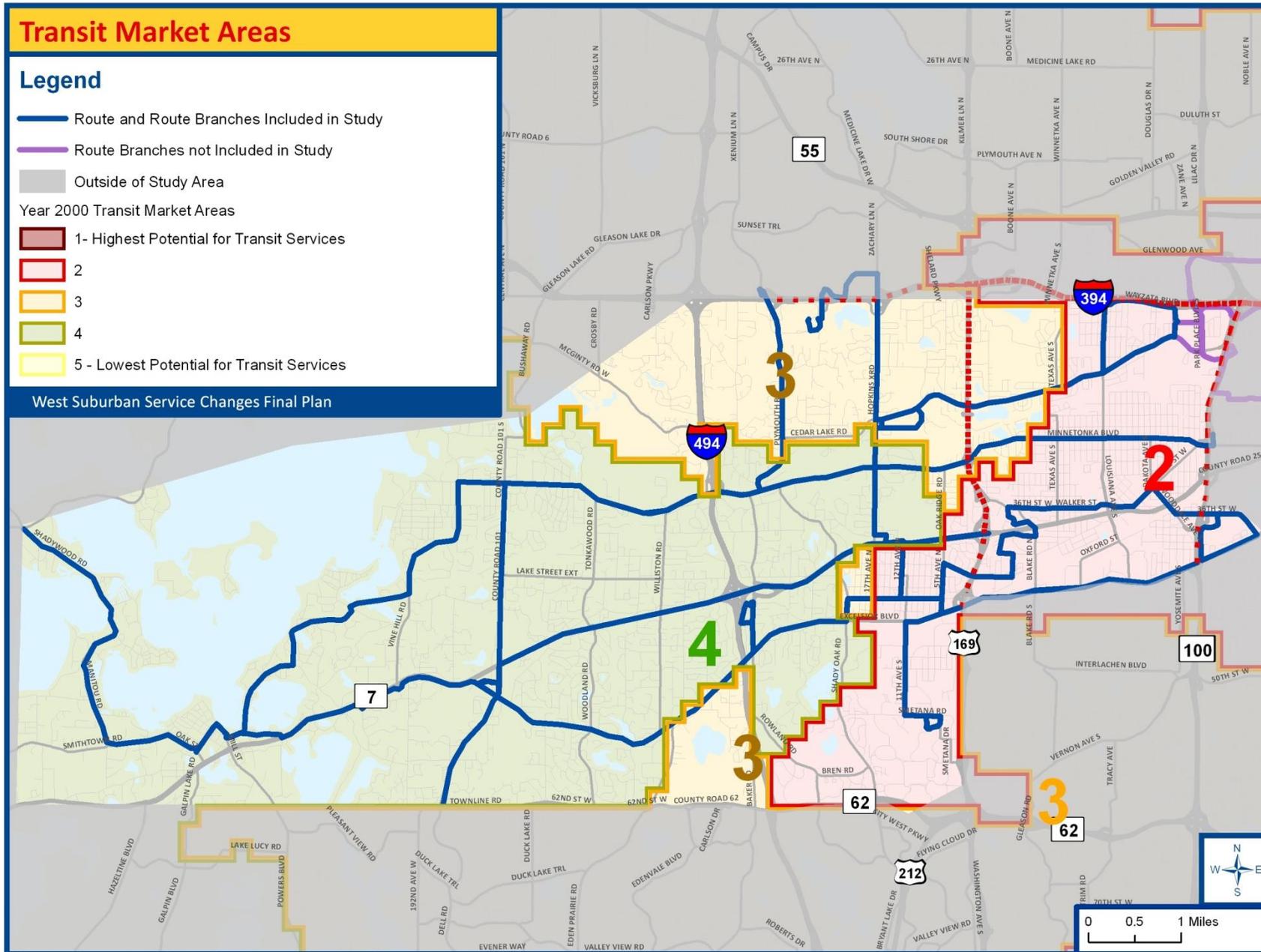
Figure 3 suggests service types that are most appropriate for the different transit market areas. The service types presented are general descriptions for each market area. Specific implementation of transit services depends on available resources, detailed analysis of transit demand, consideration of complementary and competing services, and other factors.

Figure 3 Market Areas – Suggested Service Types

Transit Market Area	Suggested Service Type
Area I	Primary emphasis on regular-route service. Downtown area circulators possible.
Area II	Primary emphasis on regular-route service. Cross-town routes and limited stop services are appropriate to link major destinations.
Area III	A mix of regular route and community circulator service complemented by dial-a-ride service in specific cases. Community circulators should tie into regular route regional service at a transfer point.
Area IV	Peak period express service, if potential demand for service is sufficient to support at least three peak-period trips. General public dial-a-ride services are appropriate.
Area V	Primary emphasis on general public dial-a-ride services

Source: 2030 Transportation Policy Plan

Figure 4 Transit Market Areas



The study area of West Suburban Service Changes project is covered by three Market Areas as shown in Figure 4. The eastern portion of the study area, including much of St. Louis Park and Hopkins, is in Transit Market Area II. Suitable transit services for Area II include regular-route service, cross-town routes and limited-stop service linked to major destinations. The northern tier of the study area west of Texas Avenue, as well as area just west of I-494 and north of County Road 62, are in Market Area III and can support a variety of service, but at lower intensity than Market Areas I and II. The central and western portion of the study area is in Market Area IV, which may be able to support express service provided there is sufficient concentration of commuters along a corridor. Transit Link, the region's general public dial-a-ride service, serves all areas that are not served by fixed-route service, regardless of Transit Market Area.

Existing Service, Ridership and Productivity

Local routes 9N, 615 and express routes 664, 665, 667E, 670 and 671 are the existing routes covered in this study. While other routes also serve the study area, they are not the focus of the study and are not being considered for service changes at this time. As a result, the following information covers only the routes that are the focus of the study. For each route, information is provided regarding its service area and transit market, number of daily bus trips, frequency of service, areas of service duplication, hours of service, ridership, productivity and distribution of rides.

Ridership is reported as an average of the daily rides during the fall of 2012. In-service hours represent the sum of the time from the start of a trip to the end of the trip and do not include layover, recovery or deadhead time. It is typically thought of as the period of time from the first time point to the last time point for a trip that is shown on the public timetable.

Productivity is reported as "passengers per in-service hour," which represents the total passengers in a route or segment divided by the in-service time. This measure is most often calculated at the route level and should be used with caution at a route segment or trip level. Figure 5 shows the regional minimum productivity guidelines for "passengers per in-service hour" on big bus fixed-route service and small bus fixed-route service.

While meeting the minimum productivity standard, three of the five express routes in the concept plan, routes 664, 670 and 671, rank in the bottom third of regional peak period express routes for productivity as measured by passenger per in-service hour.

Productivity is also reviewed based on seat utilization rate, or the number of riders on board the bus as a percentage of the total number of seats. For example, with few exceptions, a route using a standard 40-foot bus has a seating capacity for 38 passengers. Therefore, an express route averaging 26 or fewer passengers per trip is operating at less than 70 percent capacity and, based on regional guidelines, should be reviewed for service adjustments to improve its productivity. Three of the five express routes in the study, routes 664, 665 and 670, are operating at less than 63 percent capacity. In addition, Route 671 would be at 58 percent capacity without its Plymouth Road Park and Ride passengers, who have other express route options.

Figure 5 Passengers Per In-Service Hour

Type of Service	Average Passengers per In-Service Hour	Minimum Passengers per In-Service Hour
Big Bus Fixed Route – All Day	≥20	≥15
Big Bus Fixed Route – Peak Only	≥20	N/A
Small Bus Fixed Route	≥9	≥5

Source: 2030 Transportation Policy Plan

For each route, information regarding the geographic distribution of ridership activity is provided in the narrative below.

Local Route 9N –Greenbrier Road area service west of Highway 169

Service Area and Transit Market

The 9N branch provides service to the Cedar Lake Road and Greenbrier Road area of Minnetonka west of Highway 169 and east of County Road 73. It is a long line branch of Route 9, which, in addition to Greenbrier, also serves St. Louis Park, the Bryn Mawr area of north Minneapolis, downtown Minneapolis, and the south Minneapolis neighborhoods of Phillips, Seward, Longfellow, Howe and Hiawatha. The southern terminal of the route is at the 46th Street Station of the METRO Blue Line LRT. While Route 9 operates between the western suburbs and south Minneapolis, this project focuses only on the areas of the route served exclusively by the N branch of the route, west of Highway 169.

Route 9N operates in Transit Market Area III, which can support a variety of transit services, but at lower intensity than areas I and II. Hourly service is often an appropriate level of service for this market area. The Cedar Lake Road and Greenbrier Road area has a concentration of apartments and condos. However, to reach the Greenbrier area, the route must travel through an area of low population and employment density, which does not support a high frequency of service.

Areas of Service Duplication

There are no areas of service duplication on the 9N branch. While other routes also serve the Greenbrier area, they either provide service to different destinations or they provide express service as compared to the local service available on Route 9N. Route 615 provides local service from the Greenbrier area to Ridgedale Shopping Center, Hopkins and the Excelsior & Grand development in St. Louis Park. Limited-stop and express routes 643 and 663 provide the primary peak period service between the Greenbrier area and downtown Minneapolis.

Trips, Frequency and Hours of Service

On weekdays there are six eastbound and five westbound trips serving the Greenbrier area between 5:15 a.m.-8:45 p.m. Peak-period service is supplemented by routes 643 and 663, but the midday and evening service frequency on weekdays is inconsistent. The large gaps in service on weekdays was a concern raised through the public outreach process. On weekends there are 11 trips in each direction serving the Greenbrier area between 8:00 a.m.-7:30 p.m.

Ridership, In-Service Hours, Productivity and Distribution of Rides

On weekdays there are 46 rides on 11 trips serving the Greenbrier and Cedar Lake Road area west of Highway 169, or about four rides per trip. On Saturdays there are 58 rides on 22 trips, or roughly three riders per trip. On Sundays there are 47 rides on 22 trips, or approximately two riders per trip. The productivity for this section of the route service is 51 passengers per in-service hour on weekdays, 32 passengers per in-service hour on Saturdays and on Sundays it is 26 passengers per in-service hour. The low density segment of Cedar Lake Road between Highway 169 and Louisiana Avenue has minimal ridership.

The heaviest concentration of ridership on Route 9N west of Louisiana Avenue is near County Road 73. Approximately 50 percent of all riders west of Highway 169 get on or off the bus at the stop serving Greenbrier and County Road 73.

Local Route 615 – Cross-town Service between Excelsior & Grand and Ridgedale Center Service Area and Transit Market

Route 615 provides cross-town service between the Excelsior & Grand development in St. Louis Park and the Ridgedale Shopping Center in Minnetonka. Other destinations along the route include the St. Louis Park Recreation Center, Park Nicollet Clinic, Target stores on Park Center Boulevard and at Knollwood Mall, Park Spanish Immersion School, St. Louis Park and Hopkins High Schools, Knollwood Mall, Ramsgate Apartments, Mainstreet in downtown Hopkins, Eisenhower Community Center, the Greenbrier and Cedar Lake Road area of Minnetonka, the Crescent Ridge office complex and West Ridge shopping area.

As a cross-town route traveling between St. Louis Park, Hopkins and Minnetonka, Route 615 serves all three of the transit markets in the study area. The section of the route south and east of the Highway 7 corridor is in Market Area II, with moderate levels of residential density and activity nodes such as Knollwood Mall, Ramsgate Apartments and downtown Hopkins. The area between Highway 7 and Cedar Lake Road is Market Area IV. The remainder of the route between Cedar Lake Road and Ridgedale is Market Area III. Hourly service is appropriate for these markets and type of service.

Areas of Service Duplication

There are no significant areas of service duplication. While other routes provide service in the area, the type of service and/or the destinations they serve are different than those served by Route 615.

Trips, Frequency and Hours of Service

On weekdays there are 10 trips westbound and 11 eastbound operating once an hour between 7:15 a.m.-5:45 p.m. The lack of weekday evening service after 5:45 p.m. is a concern noted by stakeholders through the public outreach process. On Saturdays there are five trips westbound and six eastbound operating every two hours between 7:15 a.m.-5:45 p.m. There is no Sunday service.

Ridership, In-Service Hours, Productivity and Distribution of Rides

On weekdays Route 615 provides 170 rides on the 21 trips, or eight riders per trip. The route operates 17.6 in-service hours, which is approximately 10 passengers per in-service hour. On Saturdays Route 615 provides 86 rides over 11 trips, or eight riders per trip. The route operates 9.1 Saturday in-service hours

for an average of approximately nine passengers per in-service hour. Since Route 615 is operated with a small bus, its performance is slightly above the regional minimum guidelines.

Seventy percent of the route's ridership activity occurs at the activity centers and destinations listed above.

Express Route 664 – Weekday Peak Period Service between Minnetonka, Hopkins and St. Louis Park and Downtown Minneapolis

Service Area and Transit Market

Route 664 provides weekday peak-period express service between downtown Minneapolis and the Excelsior Boulevard residential areas of Minnetonka, Hopkins and St. Louis Park. The route travels between County Road 101 at County Road 62 and downtown Minneapolis via County Road 101, Excelsior Boulevard (County Road 3) in Minnetonka, Mainstreet in Hopkins, Excelsior Boulevard (County Road 3) in St. Louis Park and non-stop on Highway 100 and I-394. Peak-period service on Route 664 is supplemented by local peak- and off-peak service on Route 12 along Mainstreet in Hopkins and Excelsior Boulevard in St. Louis Park.

The western section of the route is in Market Area IV, an area of low density in which it is difficult to support express service without a sufficient concentration of commuters along a corridor. The eastern half of the route in Hopkins and St. Louis Park operates in Market Area II, which has a higher population density that can better support weekday peak-period express service.

Areas of Express Service Duplication

There are segments of the route that are also served by other express service to downtown Minneapolis. The Highway 7 and County Road 101 area is served by routes 667E and 670, and Mainstreet between 17th and 5th avenues is also near Route 665 and about one-half mile from Route 670 on Highway 7.

Trips, Frequency and Hours of Service

On weekdays there are four a.m. eastbound and five p.m. westbound trips. The four morning trips serve downtown Minneapolis work start times between 6:45 a.m.-8:30 a.m., and the five afternoon trips serve downtown work end times between 3:30 p.m.-5:30 p.m. There is no off-peak or weekend service.

Ridership, In-Service Hours, Productivity and Distribution of Rides

Route 664 provides 212 rides on nine trips, or approximately 24 rides per trip. The route operates 8.6 in-service hours, and productivity is approximately 25 passengers per in-service hour.

More than 80 percent of the rides are in Hopkins and St. Louis Park. The remaining 20 percent of the rides are scattered on the long local section of the route in Minnetonka. The low productivity of this segment is not unusual as long tails of express routes typically have low ridership. This is particularly true where park-ride options exist for a market area, as is the case for this segment of Route 664. Figure 6 illustrates the home locations of customers using the I-394 and County Road 73 Park and Ride. A significant number of users at this facility come from the Excelsior Boulevard section of Route 664, preferring the high frequency, non-stop service that can be provided effectively from large regional park and rides.

Express Route 665 – Weekday Peak Period Service between Minnetonka and Hopkins and Downtown Minneapolis

Service Area and Transit Market

Route 665 provides peak-period express service between downtown Minneapolis and Hopkins and the northeast corner of the Opus development in Minnetonka. The route travels between Smetana Road at Green Circle Drive and downtown Minneapolis via Smetana Road, 11th Avenue South, Excelsior Boulevard (County Road 3) and non-stop on Highway 169 and I-394. Peak period service on Route 665 is supplemented by local peak and off-peak service on Route 12 along 11th Avenue and Smetana Road.

Route 665 operates in Market Area II. The southern half of the route benefits from a concentration of apartments and condos along 11th Avenue and Smetana Road south of Westbrooke Way. About 35 cars a day park at the Hopkins Park and Ride, a 50-space facility located along the route on Excelsior Boulevard and 8th Avenue.

Areas of Express Service Duplication

Excelsior Boulevard between 11th and 5th avenues is also near Route 664.

Trips, Frequency and Hours of Service

On weekdays there are three a.m. eastbound and three p.m. westbound trips. The three morning trips serve downtown Minneapolis work start times between 7:00 a.m.- 8:00 a.m. and the three afternoon trips serve downtown work end times between 4:00 p.m.- 5:00 p.m. There is no midday or weekend service.

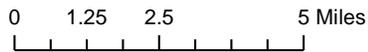
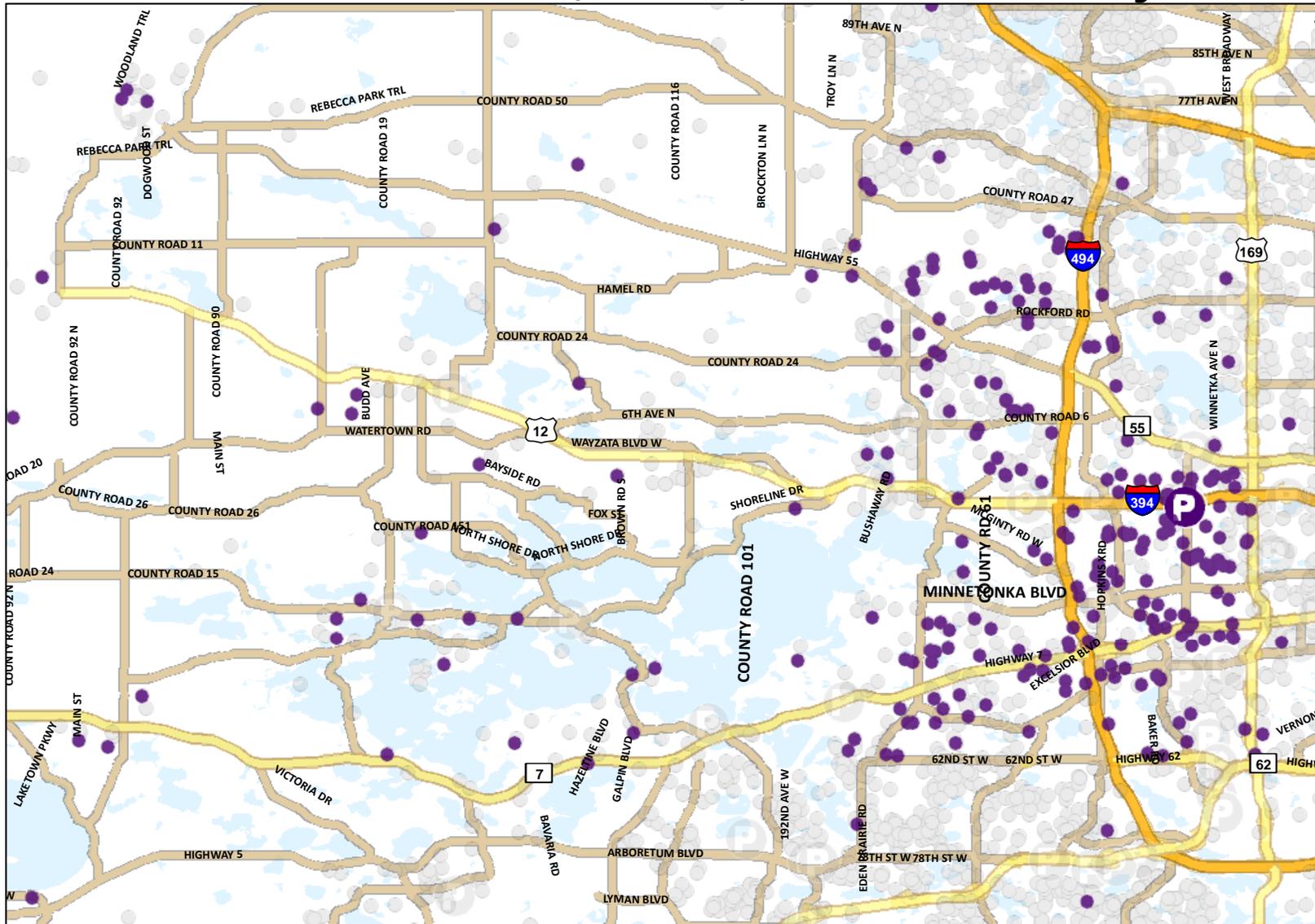
Ridership, In-Service Hours, Productivity and Distribution of Rides

Route 665 provides 137 rides on six trips, or approximately 23 rides per trip. The route operates 3.8 in-service hours, and productivity is approximately 36 passengers per in-service hour.

Roughly 45 percent of the rides are originating from the apartment and condo complexes on the portion of the route south of 11th Avenue and Westbrooke Way and another 40 percent use the Hopkins Park and Ride.

Figure 6 Home Locations of I-394 & County Road 73 Park & Ride

I-394 & Co Rd 73 Park-and-Ride (Minnetonka) 2012 Park-and-Ride User Origins



-  Co Rd 73 & I-394 South
-  Other Park-and-Rides
-  Co Rd 73 & I-394 South
-  Other Park-and-Ride Users

Map created 2/20/13 kk, jq

Express Route 667E – Weekday Peak Period Service between Minnetonka, Hopkins and St. Louis Park and Downtown Minneapolis

Service Area and Transit Market

The “E” branch of Route 667 provides peak-period express service between downtown Minneapolis and neighborhoods along Minnetonka Boulevard in Minnetonka, Hopkins and St. Louis Park. There are other Route 667 trips serving Texas and 36th avenues (“B” branch), but that section of the route is not the focus of the West Suburban Service Changes project. Route 667E travels between Highway 7 at County Road 101 and downtown Minneapolis via County Road 101 and Minnetonka Boulevard and operates non-stop on Highway 100 and I-394.

Approximately two-thirds of the 667E service operates in Market Area IV, serving low density neighborhoods of Minnetonka along County Road 101 and Minnetonka Boulevard. However, nearly 70 percent of its rides are from the eastern portion of the route, operating in the higher-density Market Area II residential neighborhoods of St. Louis Park east of Texas Avenue.

Areas of Express Service Duplication

Segments of the route that are served by other express service include the Highway 7 and County Road 101 area (served by routes 664 and 670) and the segment of Minnetonka Boulevard between County Road 101 and Baker Road (also served by Route 671).

Trips, Frequency and Hours of Service

On weekdays there are five trips in each direction. The five eastbound trips arrive downtown between 6:00 a.m.-9:45 a.m. Four of the westbound trips leave downtown between 3:30 p.m.-5:45 p.m. The other westbound trip departs downtown at 8:00 a.m. There is no off-peak or weekend service.

Ridership, In-Service Hours, Productivity and Distribution of Rides

Route 667E carries 309 rides over 10 trips, or approximately 31 rides per trip. The route operates 8.6 in-service hours, and productivity is 36 passengers per in-service hour.

Approximately 70 percent of the rides are in St. Louis Park along Minnetonka Boulevard east of Texas Avenue. Similar to Route 664, the low productivity of the portion of the route west of Texas Avenue is not unusual in that long local portions of express routes typically have low ridership. Similar to Route 664, a significant number of residents from the County Road 101 and Minnetonka Boulevard areas served by Route 667E are instead choosing to use the high frequency non-stop service available at the I-394 and County Road 73 Park and Ride.

Express Route 670 – Weekday Peak Period Service between Orono, Tonka Bay, Shorewood, Excelsior, Minnetonka and Hopkins and Downtown Minneapolis

Service Area and Transit Market

Route 670 provides peak-period express service between downtown Minneapolis and Orono, Tonka Bay, Shorewood, Excelsior, Minnetonka and Hopkins. The route travels between County Road 15 at County Road 19 and downtown Minneapolis via County Road 19, Water Street in downtown Excelsior and Highway 7 and operates non-stop on Highway 169 and I-394.

Other than the very eastern end of route near Highways 7 and 169, Route 670 operates entirely in Market Area IV. The east end in Hopkins is in Market Area II.

Areas of Express Service Duplication

Segments of the route that are served by other express service include the Highway 7 and County Road 101 area (served by routes 664 and 667E). Highway 7 in Hopkins between County Road 73 and 5th Avenue is a little over one-half mile from Route 664 on Mainstreet.

Trips, Frequency and Hours of Service

On weekdays there are three trips in each direction. The three morning trips serve downtown Minneapolis work start times between 7:30 a.m.-8:30 a.m., and the three afternoon trips serve downtown work end times between 4:00 p.m.-5:00 p.m. There is no midday, evening or weekend service.

Ridership, In-Service Hours, Productivity and Distribution of Rides

Route 670 carries 113 rides on six trips, or about 19 rides per trip. It operates 6.6 in-service hours for an average of approximately 17 passengers per in-service hour. This is below the regional standard of 20 passengers per in-service hour.

Approximately 40 percent of the riders board on Highway 7 in Hopkins just west of Highway 169. Another 34 percent board between the Vine Hill Park and Ride and the intersection of Highway 7 and County Road 101. Only 10 percent of the rides are on the western third of the route. As with routes 664 and 667E, the low ridership on the western section is typical of long local segments on express routes in market areas with park and ride options. A significant number of residents from the Highway 7 area are choosing to use the high frequency non-stop service at the I-394 and County Road 73 Park and Ride.

Express Route 671 – Weekday Peak Period Service between Excelsior, Greenwood, Deephaven and Minnetonka and Downtown Minneapolis

Service Area and Transit Market

Route 671 provides peak-period express service between downtown Minneapolis and Excelsior, Greenwood, Deephaven and Minnetonka. The route operates between Water Street in downtown Excelsior and downtown Minneapolis via Minnetonka Boulevard and Plymouth Road and operates non-stop on I-394. The route serves the 111-space Plymouth Road Park and Ride located at Plymouth Road and I-394.

Similar to Route 670, most of Route 671 operates through low density neighborhoods of Market Area IV. The eastern segment of the route along Plymouth Road is located in Market Area III. However, this segment has relatively low residential population south of Sherwood Place. Its designation as Market Area III is due principally to employment concentrations found at and adjacent to Ridgedale.

Areas of Express Route Duplication

Segments of the route that are served by other express service include the segment of Minnetonka Boulevard between County Road 101 and Baker Road (also served by Route 667E) and the Plymouth Road Park and Ride (also served by express routes 672, 675 and 677).

Trips, Frequency and Hours of Service

On weekdays there are three trips in each direction. The three morning trips serve downtown Minneapolis work start times between 7:30 a.m.-8:30 a.m., and the three afternoon trips serve downtown work end times between 4:00 p.m.-5:00 p.m. There is no off-peak or weekend service available.

Ridership, In-Service Hours, Productivity and Distribution of Rides

Route 671 carries 166 rides on six trips, or approximately 28 rides per trip. The route operates 6.0 in-service hours for an average of 28 passengers per in-service hour.

Nearly half of the riders board at one of the three official park and rides along the route – at Steele Street, Baker Road or the Plymouth Road site. One-quarter of the rides are on the western part of the route in the communities of Excelsior, Greenwood and Deephaven. As can be seen on Figure 6, similar to the other express routes in the study, a significant number of residents along the Plymouth Road segment of Route 671 are instead using the high frequency non-stop service available at the I-394 and County Road 73 Park and Ride.