

# A look at Transit Revolution Southwest Light Rail Alternative Routes

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The map at the right shows my proposed **Transit Revolution Southwest Alternative** – based on using **Metro Mobility size busses instead of light rail**. The operating cost for my plan is about the same – in the \$35 million range – as the projected operating cost for the Light Rail plan. However, my **Transit Revolution** plan provides for over 2,000 discrete daily trips – about ten times as many as the Light Rail plan. This means we will offer **ultra frequent service** – usually **Five Minute Service** frequency.

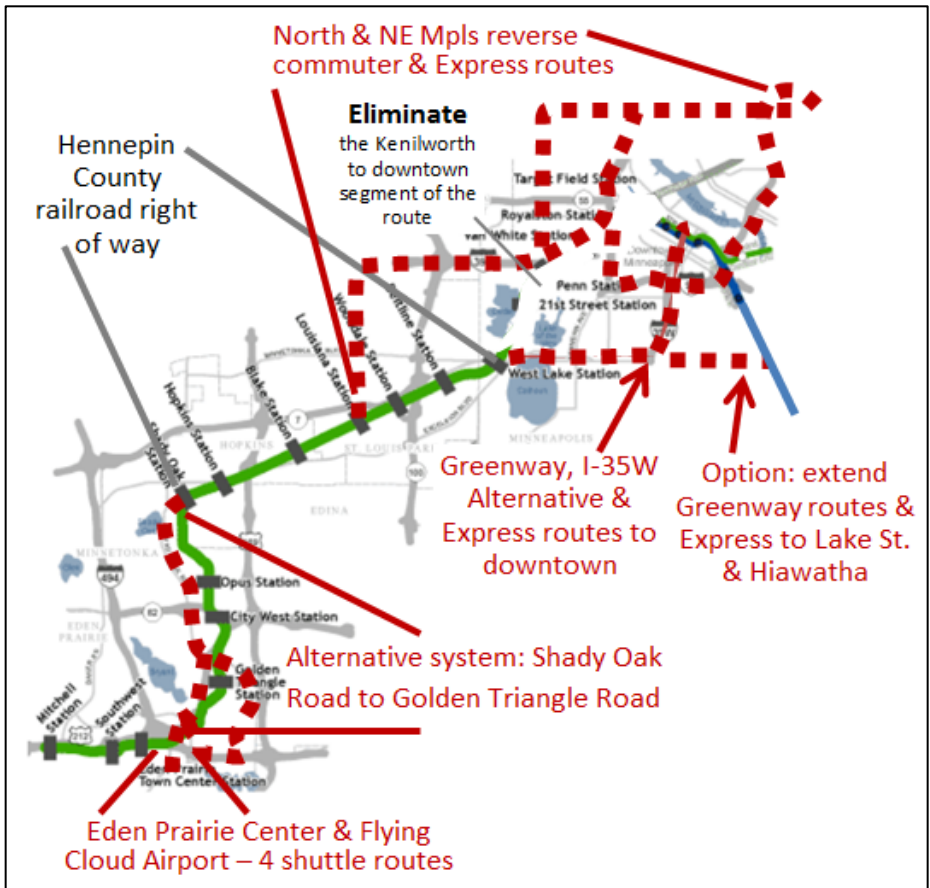
Longer waiting times are really a kind of “**Transit Time Tax**.” This is a highly regressive tax, hitting poor and moderate income people the hardest. **Let’s slash the Transit Time Tax for everyone!**

From Shady Oak Road to downtown Minneapolis the **Transit Revolution bus route** is a dedicated, **guaranteed congestion free** right of way. It leaves the Kenilworth park land alone – proceeding instead through the densely populated, job rich Minneapolis Uptown and Greenway communities -- before heading downtown at I-35W using congestion-free MnPASS lanes. Greenway service can and should be extended to Lake Street and Hiawatha – again with **Five Minute Service** frequency, and dedicated Express connections. An Uptown/Downtown Express can be added – to leave every five minutes during busy times, proceeding with only one stop (Lyndale) to and from the Uptown Transit Station and the downtown entrance/exit of I-35W at 11<sup>th</sup>/12<sup>th</sup> Street in about **six to eight minutes**.

Enough return trips will be routed to North and Northeast Minneapolis reverse commuter routes, including Express routes, to ensure **Five Minute Service** frequency during busy times – with fast trips to the job rich Golden Triangle and Eden Prairie Center. All North-South routes in North and Northeast Minneapolis will link to the reverse commuter and Express routes.

Eden Prairie Center will become **Prairie Central Station**, with three short lines for shoppers and travelers, and a frequent or on-demand shuttle to Flying Cloud Airport.

Details are on the following pages.



## North/NE Minneapolis Reverse Commuting routes

During rush hours more people will be traveling to (AM) and from (PM) downtown Minneapolis than in the reverse direction. One Southwest Light Rail selling point is better access to jobs for people in North Minneapolis. **There is no question that this is an issue of economic justice.** However, the **Transit Revolution Southwest Alternative** plan advances economic justice **better** than the Light Rail plan.

Here's how: After AM runs to Minneapolis, including a downtown loop, many busses will run a North/Northeast Minneapolis Reverse Commuter Route – providing **Five Minute Service** frequency to Eden Prairie. Most reverse commuter

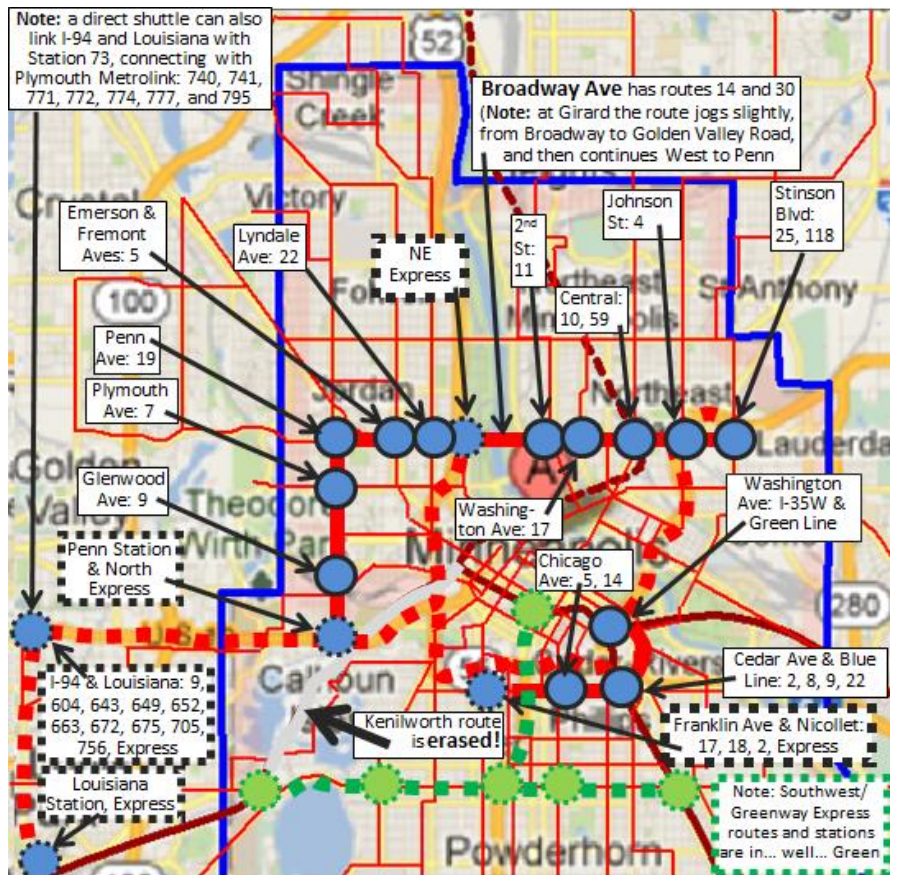
buses will proceed to Penn and the Broadway route (see **Broadway Ave** map note above) – via I-94 and I-394 (a few may proceed via I-35W to run an optional NE Express.) From Penn, busses go East to Stinson Blvd, and then turn around for the North Express to Eden Prairie, providing **Five Minute Service** frequency during rush hours for all existing, intersecting North-South routes in both directions -- intersections and route numbers are shown above.

The AM North Express routes enter I-394 at Penn, exiting to the Louisiana Transit and Park-and-Ride. Supplemental dedicated shuttles can link there with most of the Plymouth Metrolink service at Station 73. The next **Transit Revolution Southwest Alternative** stop is at Louisiana Station, with three more Express stops: Shady Oak Station, Shady Oak/Hwy 212 and **Prairie Central Station**. Beyond Shady Oak Station, shorter **Five Minute Service** routes, supplemented with on-demand door to door shuttle service, bring you to and from your final destination.

For the reverse trip, the service starts at **Prairie Central Station**, and proceeds with the same stops to I-394, and then to the North and Northeast Minneapolis stops (again, a few may run an optional NE Express.)

After completing the Broadway run in both directions, some PM reverse commuter routes returning to downtown Minneapolis may first exit at Washington and link with the Green and Blue lines on the way. All PM reverse commuter trips to Eden Prairie first run a downtown Minneapolis loop. The return trip to Eden Prairie is via the main **Transit Revolution Southwest Alternative** route, commencing with I-35W and the new **Lake/Greenway Transit Station**. The Southwest/Greenway route -- and Express Transit Stations -- are also illustrated on the map.

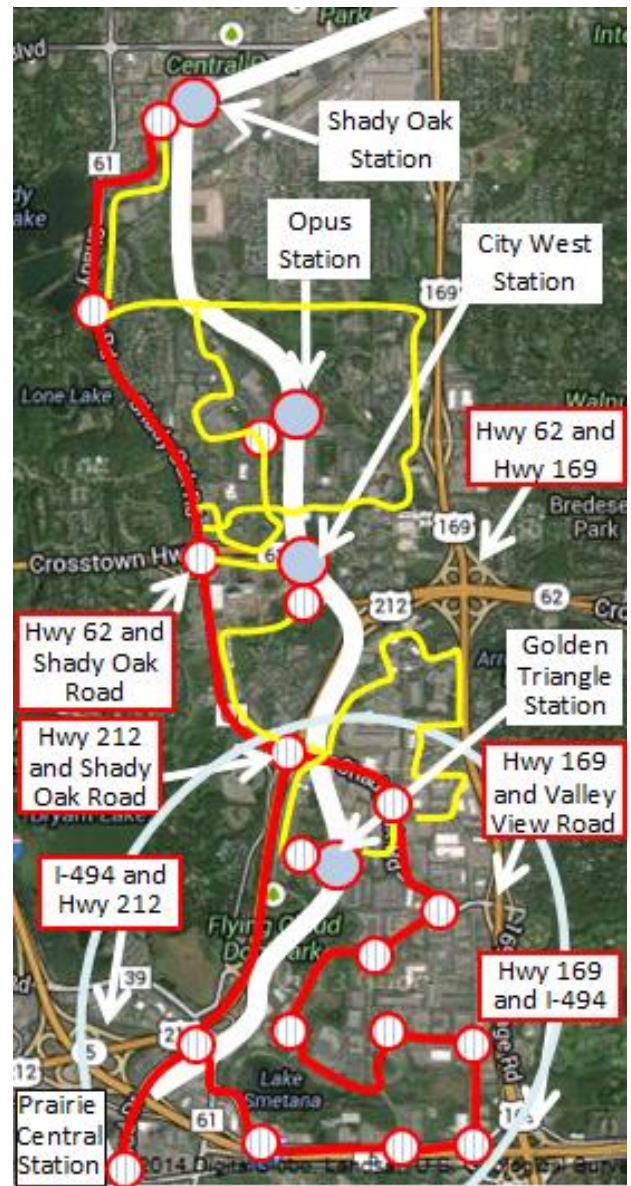
This level and kind of service for North and Northeast simply isn't possible with Light Rail. To advance economic justice, the **Transit Revolution Southwest Alternative** makes this service quality not just **possible**, but **imperative**.





## From Shady Oak Station to Eden Prairie Center

For the map at the right, the proposed Light Rail route, with four stations, is shown with the thick white line. Shady Oak Road is in red – the red West side of the loop at the bottom is Hwy 212. It's about three miles from Shady Oak Station to Golden Triangle Station, and about another mile and a half to my proposed new **Prairie Central Station**, in the middle of Eden Prairie Center. When you consider these distances, here's the reality that emerges: the proposed Light Rail stations are **not** walking distance apart. However, when you're in a vehicle, a mile is nothing. Therefore, we need to add some additional ingredients to the mix. First, since we're replacing the proposed Southwest Light Rail right of way with Shady Oak Road, we'll add a **Golden Triangle Loop** – circled in light blue -- running South of the Shady Oak/212 intersection, with **Five Minute Service** frequency, and closer stops. A spur runs to **Prairie Central Station**. The **Golden Triangle Loop** brings about 20,000 jobs within walking distance of a **Transit Revolution** stop. The meandering Northern **Shady Oak Loop** is another yellow brick road --highlighted with a yellow line -- and also with **Five Minute Service** frequency -- connecting the Shady Oak/Hwy 212 stop on the South with Shady Oak Station on the North. The longer path, with on-demand stops along the way, is necessary to reach all major buildings, including Super Value Headquarters and a new United Healthcare facility with 6,000 jobs, and to accommodate one way streets in Minnetonka. There are three intermediate stops, including Hwy 62. Even with this fine grid of stops, we still

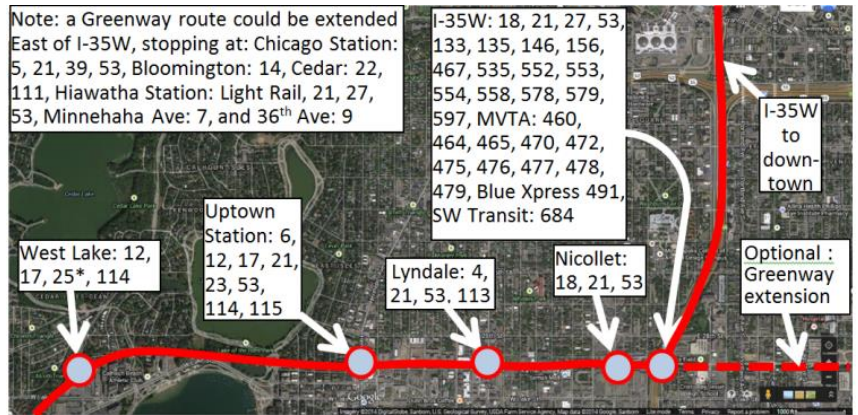


need to take **Transit Revolution** to the next level. Each stop on both the **Shady Oak Loop** and the **Golden Triangle Loop** will be served by local area shuttle service vehicles, taking people from the nearest transit stop right to the door of their final destination. Naturally there will be a cell phone app for contacting the local shuttles and arranging to be picked up. There will be no additional charge to Go Card holders for this door to door service.

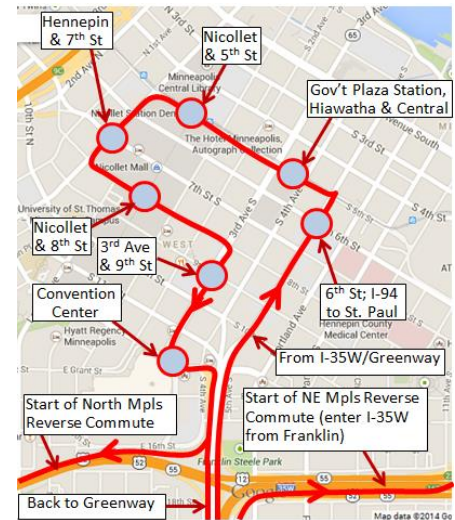
The text boxes with red borders are transit stops for **Transit Revolution Five Minute Freeway Service** – the core of Phase Two **Transit Revolution** service. When a **Transit Cloverleaf** is installed at the I-494/Hwy 212 intersection, the **Golden Triangle Loop** will be re-routed to go there from **Prairie Central Station**. The other three red border **Transit Revolution Five Minute Freeway Service** stops – Shady Oak/Hwy 62, Shady Oak/Hwy 212, and a spur to Valley View/Hwy 169 – can all be linked with the **Transit Revolution Five Minute Freeway Service** immediately. Of course this means that **all** users of **that** service will now have excellent, door-to-door service in the entire jobs-rich zone served by the **Golden Triangle** system. Finally, let's plan to add a non-stop **GT/EP Airport Shuttle**, (Golden Triangle/Eden Prairie... not in the current budget... Flying Cloud **will** be looped in) with at least ten minute service, from the Shady Oak/Hwy 62 stop to MSP International. If you're going to or from an airport, ten minutes isn't too long to wait, but it's preferable to bump the service up to the **Five Minute Service** frequency if at all possible.

**The Transit Revolution Southwest**

**Alternative** route from West Lake to downtown Minneapolis is shown at the right. Short tunnels will bring it under three at-grade North-South streets just West of Uptown Station. It will run on the proposed Light Rail route from Shady Oak road to West Lake – however, then it will head down the Greenway right of way to I-35W, with stops at major North-South intersections: Hennepin (Uptown Station), Lyndale, and Nicollet. Elevators will link North-South routes with the Greenway stops. The Greenway right of way is 100 feet wide -- plenty of room for two fenced-in **Transit Revolution** vehicle lanes having speed limits of 40 mph or better. Bikes will continue to use the North side of the Greenway. Note the large number of bus routes the **Transit Revolution Southwest Alternative** links to. A new **Lake/Greenway /I-35W** Transit Station will be built (integrated with Nicollet) – **Transit Revolution** vehicles will go to and from downtown via dedicated ramps, and will use existing congestion-free MnPASS lanes.



The middle map at the right shows the standard downtown **Transit Revolution** loop, from and to the downtown I-35W entrance and exit. The first stop is 6<sup>th</sup> street, where people can catch the I-94 express to downtown Saint Paul. That's about a 20 minute trip; significantly faster than the Light Rail service connection at the next stop: Government Plaza. The loop then brings you to the core of downtown Minneapolis, and the Convention Center.



The bottom map at the right shows **Prairie Central Station**, which supports two shopping routes, a third route for travelers who want to avoid renting a car, and a fourth route shuttling back and forth between Flying Cloud Airport (this will become an MSP shuttle loop). The shopping routes are designed to make a range of general retail and home-oriented shopping venues available to people **who don't or can't drive**. If you don't drive, this group of retailers tends to be too spread out to make bus shopping practical. **Transit Revolution is intended generally to make bus shopping a practical alternative.** We can and should do as much for people who shop using transit as we do for people who combine biking with transit.



There are seven lodging establishments in a concentrated area near **Prairie Central Station**. **Transit Revolution** service is designed to make longer stays for business employees and contractors more economical. Let's figure out a way to pass the savings from not needing a car to the **people** who won't need them. That should be a fringe benefit for contractors and people on extended business trips.

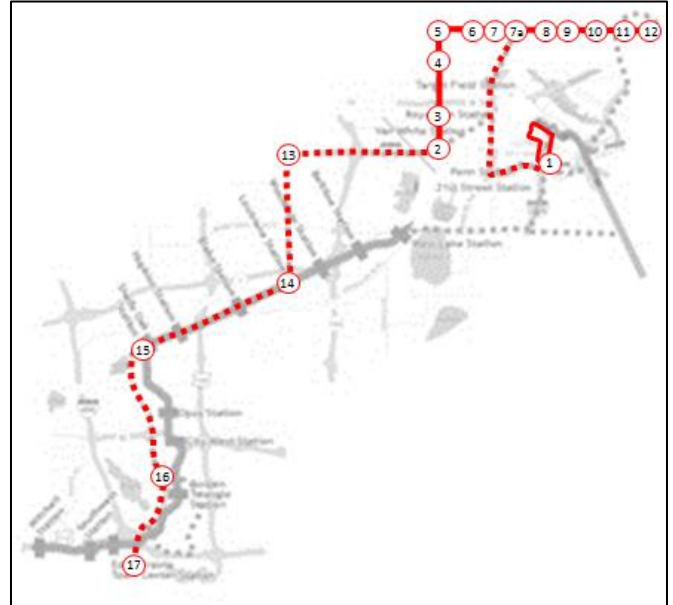
Smaller vehicles... five minute service... use existing roads... automated driving up ahead... that's **Transit Revolution!**



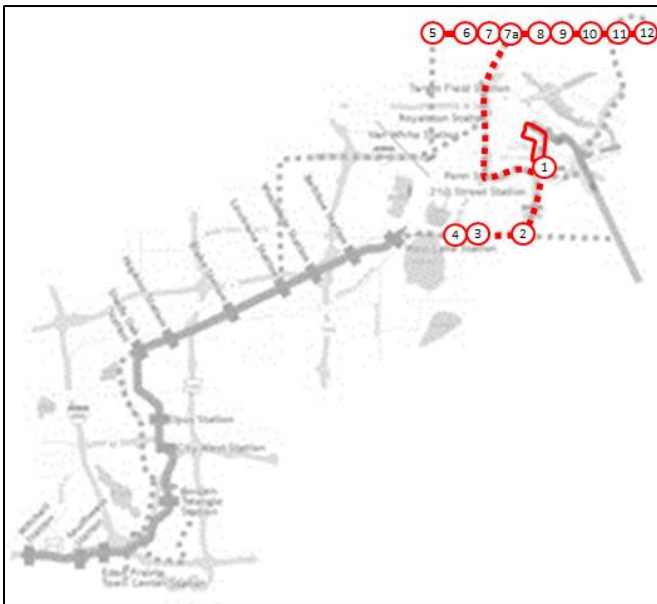
## More Detail on Routes



**Southwest Main** – Main route between Eden Prairie and Minneapolis – 5 Minute Service to Mpls 15.5 hrs/day, from Mpls 12 hrs/day – 2.487 million miles/yr, 31.5%; 100,100 hrs/yr, 20.4%.



**North/Northeast Reverse Commute** — 5 Minute Rush Hour Service to Mpls 2.5 hrs/day, from Mpls 3 hrs/day – 362 thousand miles/yr, 4.6%; 18,720 hrs/yr, 3.8%; 5 Minute Service on Broadway.



**Broadway Grid / Broadway Link** – 5 Minute Service on Broadway day and evening hours, links Broadway, downtown, and Greenway, 1.385 million miles/yr, 17.6%; 74,100 hrs/yr, 15.1%.



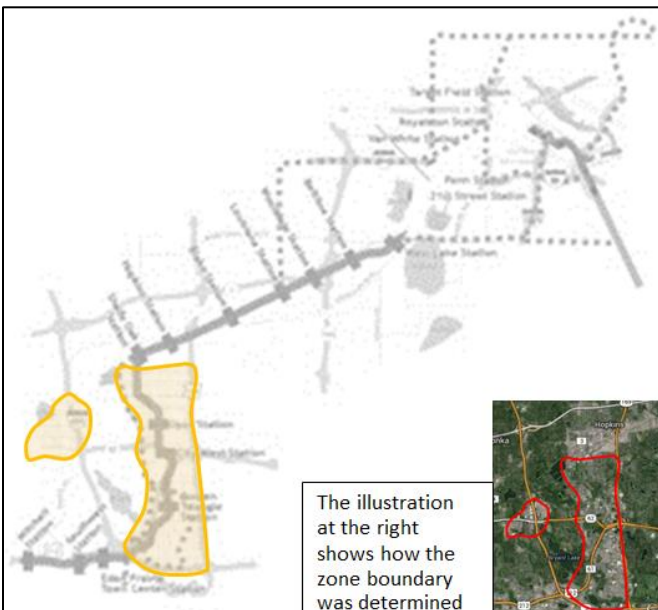
**Eden Prairie / Minneapolis Express** – 5 Minute Rush Hour Service to Mpls 2.5 hrs/day, from Mpls 3 hrs/day, 10 Minute Evening Service from Mpls, 744 thousand miles/yr, 9.4%; 23,400 hrs/yr, 4.8%.



**Golden Triangle Loop** – 5 Minute Service 6:30 AM to 6:30 PM; links to main and express routes, spur to Prairie Central Station, 530 thousand miles/yr, 6.7%; 44,200 hrs/yr, 9.0%.

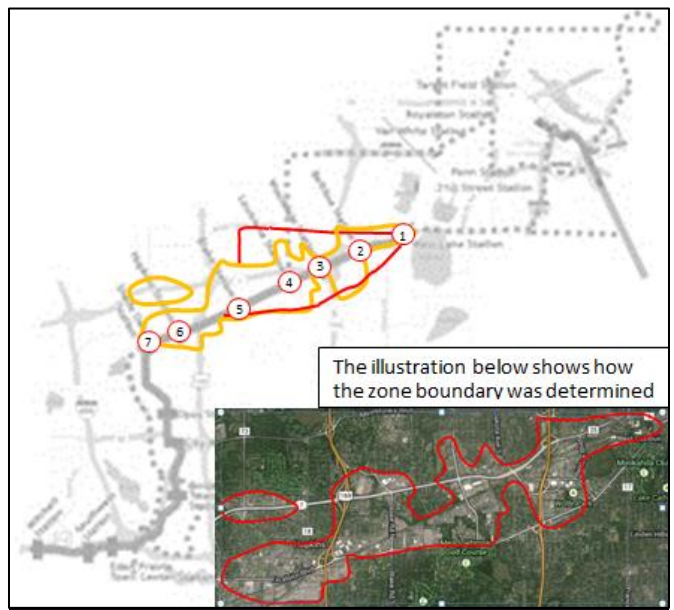


**Shady Oak Loop** – 5 Minute Service 6:30 AM to 6:30 PM; links to main and express routes, door to door service routes, 530 thousand miles/yr, 6.7%; 44,200 hrs/yr, 9.0%.



The illustration at the right shows how the zone boundary was determined

**Shady Oak / Golden Triangle Door-to-Door Zone** – Direct Door-to-Door service; connects with stops on loops (above), works via phone apps; 267 thousand miles/yr, 3.4%; 38,090 hrs/yr, 7.8%.

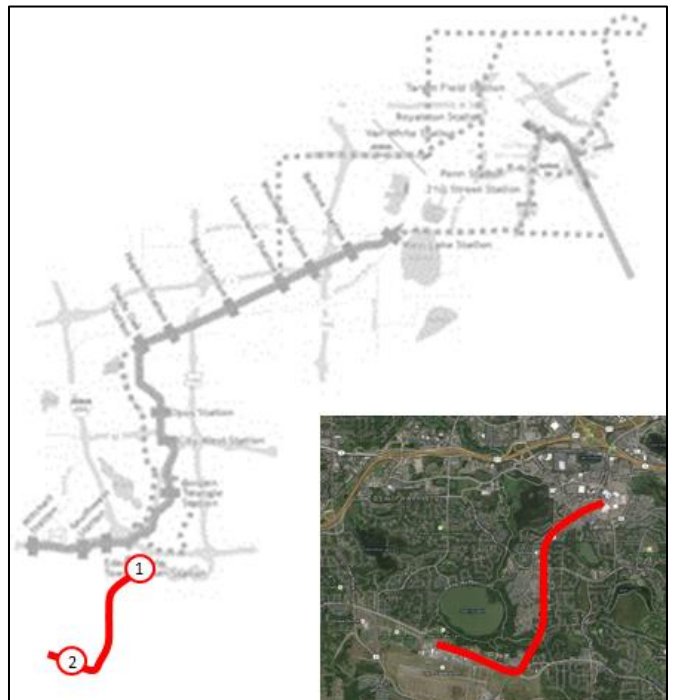


The illustration below shows how the zone boundary was determined

**Hopkins / St. Louis Park Door-to-Door Zone** – Direct Door-to-Door service; connects /w business zones shown above, works via phone apps; 444 thousand miles/yr, 5.6%; 63,440 hrs/yr, 12.9%.



**Prairie Central Station: Shopping & Traveler Routes –** Store-to-Store service and links to lodging; connects via Prairie Central Station; 376 thousand miles/yr, 0.6%; 9,490 hrs/yr, 1.9%; could be combined with other Door-to-Door services.



**Flying Cloud Airport service –** on demand for travelers, works via phone apps; 47 thousand miles/yr, 0.6%; 9,490 hrs/yr, 1.9%; could be combined with other Door-to-Door services.



**“Greenway Grid” Shuttle –** Connects Hiawatha and Southwest, and all North-South routes in between; 5 Minute Service rush hrs and evenings; 680 thousand miles/yr, 8.6%; 35,880 hrs/yr, 7.3%.



**Northeast Reverse Commute Express –** Only 3x/day each way, a little faster for NE Mpls residents, 36 thousand miles/yr, 0.5%; 1,300 hrs/yr, 0.3%.

## Operating Expenses –

This is a **Transit Revolution** plan – that means an across the board challenge to conventions and rules of thumb. On the one hand, the **Transit Revolution** policy includes a commitment to “hold harmless” the existing Metro Transit. This means no job cuts, and no pay cuts. However, the further assumption is that for new **Transit Revolution** systems, we will concentrate spending **only** on what directly provides transit: this means paying for drivers and vehicles – and an absolute commitment to driving out **all** other costs. It also means a pay structure based on part time work at \$17/hr W-2 plus mandatory employer paid benefits only – a fully loaded cost of \$20/hr.

The spreadsheet below summarizes operating expenses based on these assumptions, and drawing from the miles and hours presented earlier for routes and service. Weekend days are assumed to average 60% of weekday hours and miles. The result is an average total operating expense of **\$57.32** per vehicle hour – far below the \$130 U.S. average for big city bus systems. The average speed for all trips is 16 Miles per Hour – driven down by a lot of localized service, and by a downtown Minneapolis loop that is inevitably slow (but faster than walking). However, the speed (minus the downtown loop) for the full length route and express routes is comparable to the proposed Light Rail system.

<b>Operating Expenses Spreadsheet</b>		
Cost for drivers @\$20/hr, fully loaded	\$20.00	
Vehicle hours per year (weekday & weekend)	608,208	
Cost, based on vehicle hrs/yr	\$12,164,152	
30% add'l for reserve drivers, breaks, vacations, etc.	\$3,649,246	
<b>subtotal: drivers:</b>	<b>\$15,813,398</b>	
Administration, @ \$25/hr fully loaded	\$2,600,000	
Assume 50 FTE administrators		
vehicle miles per year (weekday & weekend):	9,781,884	
Fully loaded operating cost, @ \$1.25/mi, function of vehicle miles per year, includes depreciation	\$12,227,354	
10% add'l for reserve vehicles	\$1,222,735	
<b>subtotal: vehicles:</b>	<b>\$13,450,090</b>	
Cost for non/personnel overhead (Note: drivers can take vehicles home if they have safe parking; cost for personal use is \$1.00/mi)	\$3,000,000	
<b>Total Annual Operating Expenses:</b>	<b>\$34,863,487</b>	
<b>Average Total Expense per Vehicle Hour:</b>	<b>\$57.32</b>	
<b>Average vehicle speed, MPH:</b>	<b>16</b>	MPH