

Improving Transportation Accessibility for the City of Rosemount

PA 8202: Transportation Networks and Places: Transportation, Land Use, and Design Instructor: Yingling Fan City Staff: Eric Zweber
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QUESTIONS

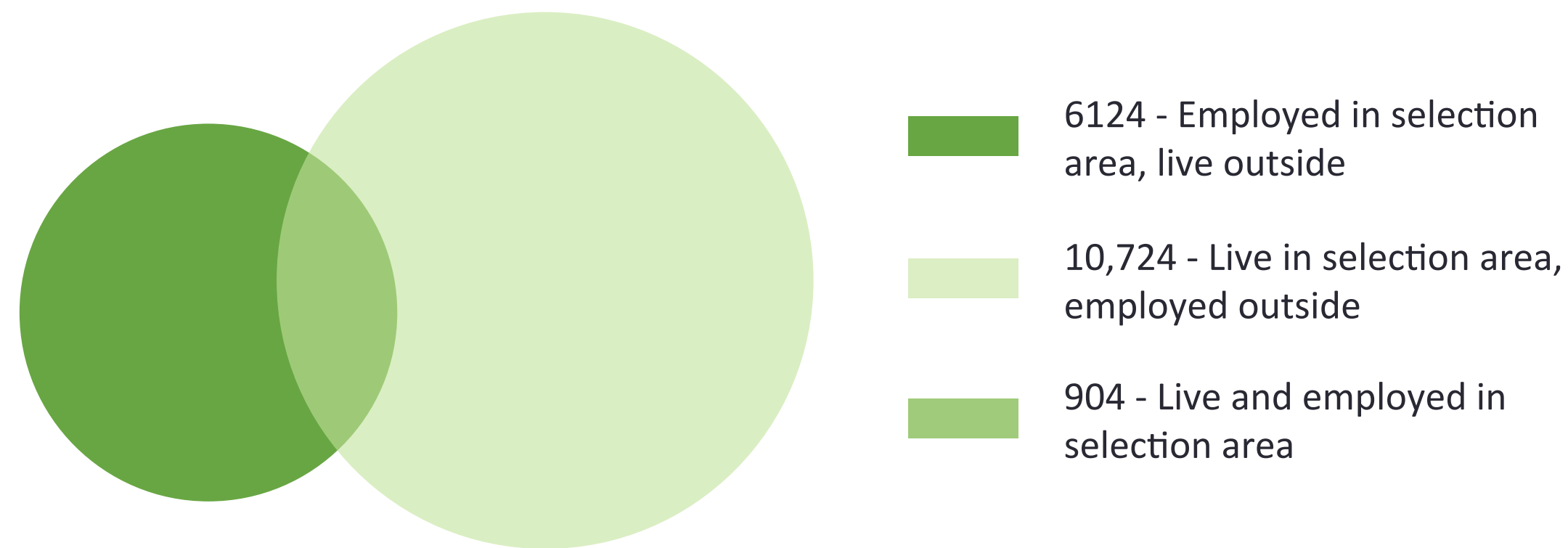
The City of Rosemount is interested in improving transit services for their residents and expanding residents' job commute options. In this course project, we conducted analyses to help the City answer the following questions:

- **Where do Rosemount residents work and how do they get there?**
- **Where do employees within Rosemount live and how do they travel to work?**
- **Is there an all day demand for transit and, if so, to where?**

FACTS

Longitudinal Employer-Household Dynamics (LEHD) data for 2011 shows that 900 residents both live and work in Rosemount, and roughly 6,100 people commute into Rosemount for employment. It also shows that 1,211 people live in Eagan, 990 live in Apple Valley, 332 live in Lakeville, and 183 live in Farmington, which are the closest cities to Rosemount. It is evident from these commute flows that the transportation needs are both to provide options for Rosemount residents to commute to their employment and for people to be able to commute into Rosemount.

Inflow/Outflow Job Counts in 2011



Source: OnTheMap Tool (LEHD) Census.gov

According to American Community Survey 2012 data, the majority of the mode share of commutes in Rosemount is single-occupancy vehicle (75.4%), followed by carpooling (7.1%). Public transit, walking, and bicycling total less than 5%, and about 1% of residents do not own a vehicle and rely on other modes for commuting.

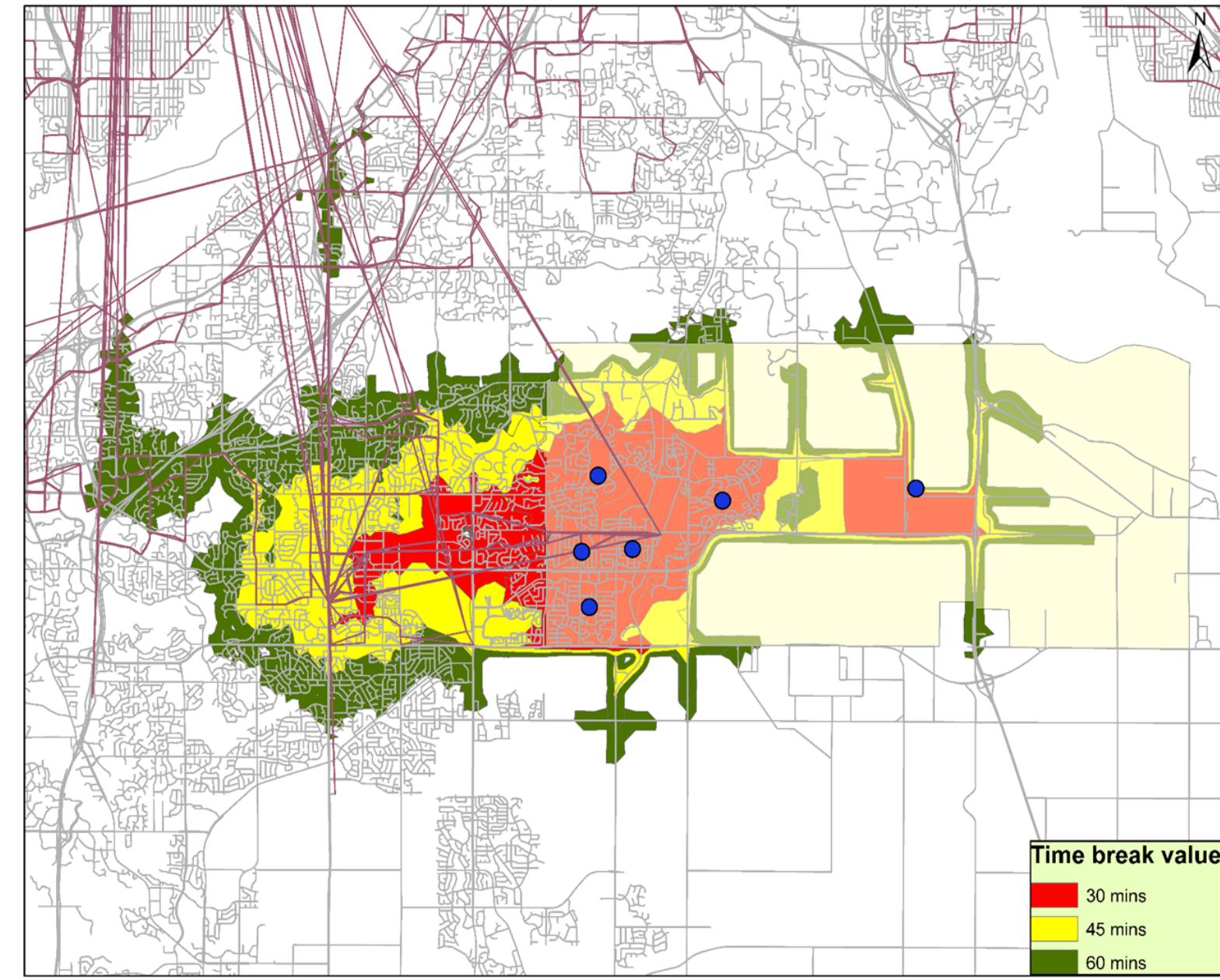
Mode Share of Commutes in Rosemount

	Public Transportation	Bicycled/Walked	Work at Home
Drove Alone	3.8%	>2.0%	8.4%
Carpooled	7.1%		

Source: American Community Survey 2012, Census.gov, Data of employees 16+ years of age

FINDINGS

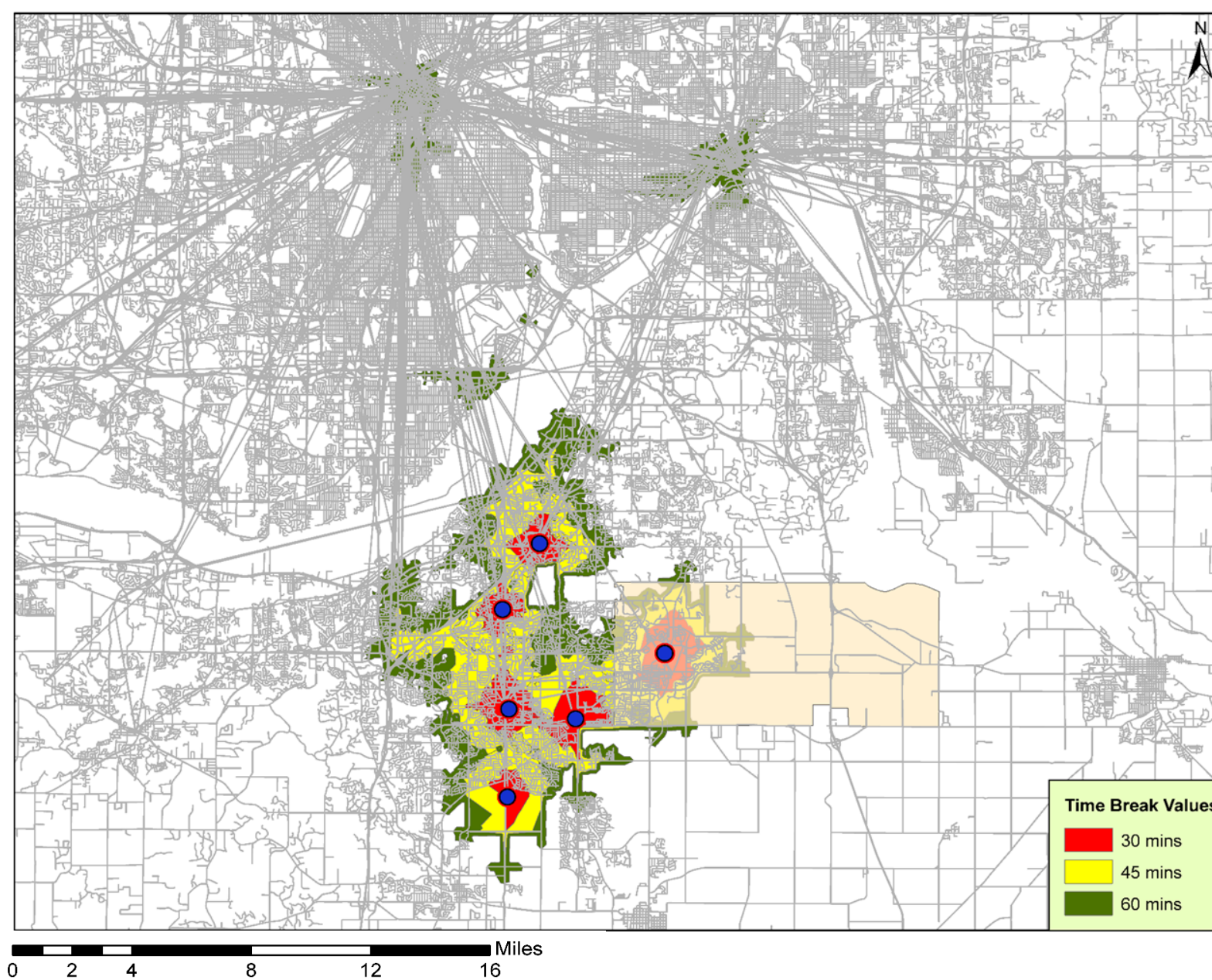
Area reachable from Rosemount by walk-and-ride transit trips at 7:20 AM (Max. area)



This map shows that starting at 7:20 AM allows transit riders to reach the largest accessible area extending to downtown Minneapolis.

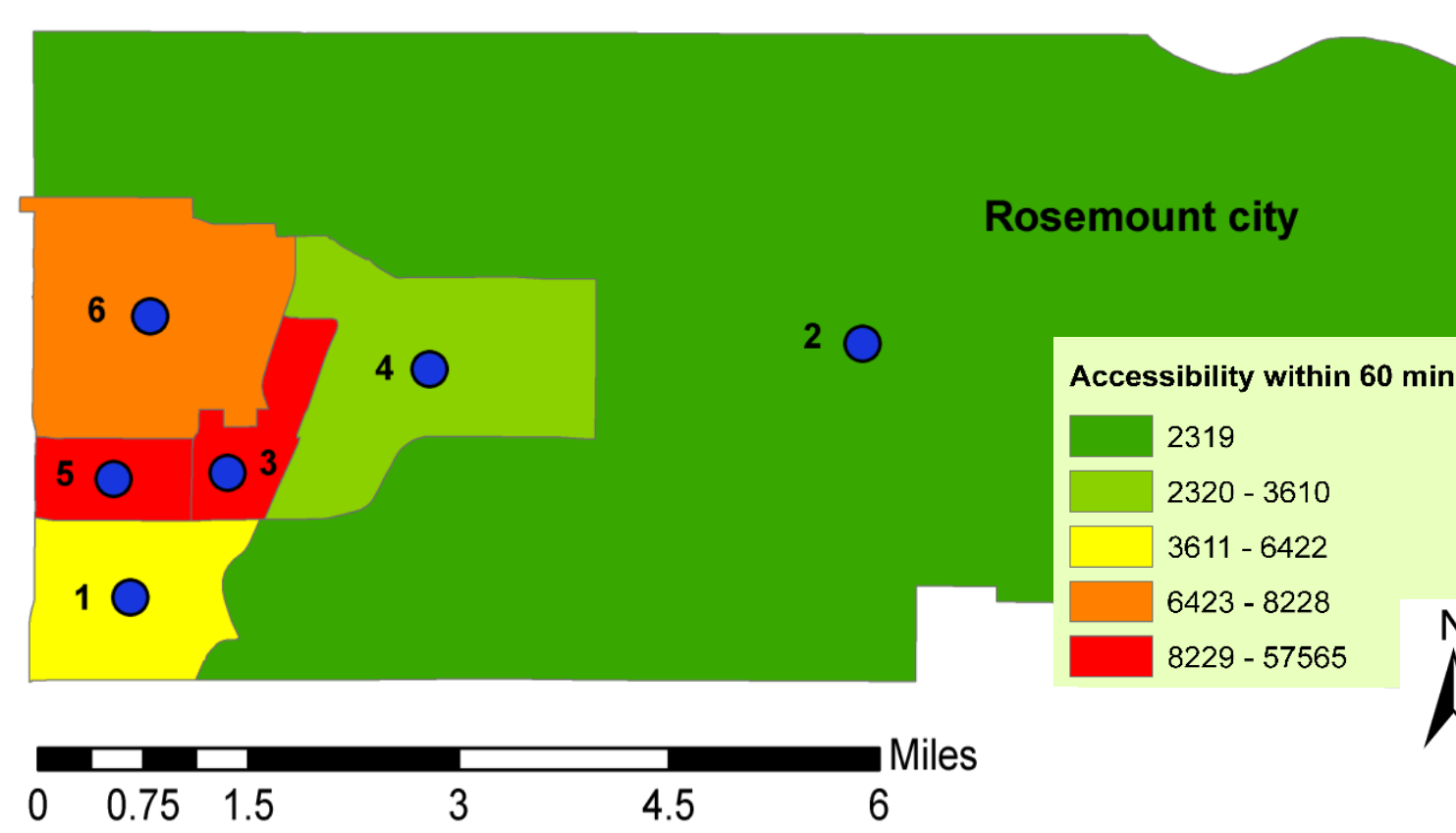
It provides the maximum mobility to people who work in Minneapolis and shows the high transit demand at this time.

Area reachable from Rosemount by park-and-ride transit trips at 7:00 AM (Max. area)



Similarly, for park-and-ride transit trips, different starting times in the morning have an impact on the accessible area covered by the transit service. It is concluded that starting at 7 AM covers the maximum service area using park-and-ride transit.

Number of jobs reachable within 60 minutes in Rosemount at 7:20 AM



Aggregating job counts for 0–30, 30–45, and 45–60 minute periods shows that census tract 3 and census tract 5 have high accessibility compared to the other census tracts. The reason for this observation is high concentration of bus stops within census tracts 3 and 5.

RECOMMENDATIONS

Recommendation 1: Bike Sharing Program

A bike sharing system is one in which bikes are publicly accessible and dispersed throughout a city. Access can happen either through membership subscription or on a pay-per-trip basis, both of which are managed electronically at station kiosks.



Photo by Walker Angell

The intent is to enhance residents' ease of movement among Rosemount destinations, especially by alternative modes of transportation.

Recommendation 2: MVTA Route Expansion

1. Route 420: shorten Route 420's headway from one hour to one-half hour. Provide the flex service during rush hour, which allows passengers to be picked up within 3/4 mile from designated route.



<https://www.flickr.com/photos/thetransitcamera/13572233834/>

2. New routes: Several new routes could be implemented to expand transit coverage for Rosemount:

- Rosemount to Mall of America
- Rosemount to St. Paul

Recommendation 3: Eagan-Rosemount Transit Line

The final recommendation is a direct-transit service route from Rosemount to Eagan, facilitating Rosemount workers' to commute to Eagan, especially during morning peak hours.

More than 10% of workers (nearly 1,200 workers) who live in Rosemount work in Eagan, making it a significant commuting destination, especially in morning and evening peak hours.

Job share by destination

	Earnings			
	All workers	< \$1250/month	29 or younger	55 or older
Minneapolis	11.10%	6.90%	8.40%	8.80%
Eagan	10.40%	8.00%	8.40%	11.10%
St. Paul	9.10%	6.80%	5.70%	9.90%
Apple Valley	8.50%	13.80%	10.60%	10.50%
Rosemount	7.80%	11.30%	9.10%	11.70%

Source: OnTheMap Tool (LEHD) Census.gov

METHODS

Travel Shed Analysis

The travel shed analysis utilized timetables, routes, and stop locations from the General Transit Feed Specification (GTFS) data that was sourced from the transit providers operating in the Twin Cities. Using the Network Analyst tool in ArcGIS, an analysis was performed on multiple times of the weekday from 7:00–7:30 AM starting times to demonstrate the range of service area and to determine the time that offered the largest transit-accessible area.

Job Accessibility Analysis

A job accessibility analysis is intended to understand the variation in number of jobs accessible from Rosemount between 7:00–7:30 AM).

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