Payment structures

- Investments in **marketing** and outreach
- Willingness to **experiment**
- Quality of service **monitoring** and **enforcement**
- Overcoming **technology barriers** (need for smart phones and internet access)
- Overcoming **payment mode barriers** (need for credit cards and bank accounts)
- Mitigating long term **risks**
Potential P3 Application in the Twin Cities

• Understanding travel behavior patterns:
  • Transit riders
  • Multimodal travelers

• Understanding transit system’s operational characteristics
  • Ridership patterns
  • Cost effectiveness
Travel Mode Shares

Trips by mode, from TBI’s 2010 Household Travel Survey

Transit access modes, from TBI’s 2010 Transit On-board Survey
Transit Access Distances

Access distance by driving mode

Access distance by bicycle mode
Transit Access Distances

Legend
Driving Access Distance (mi)
- 0.014 - 3.000
- 3.001 - 6.000
- 6.001 - 10.000
- 10.001 - 30.000
- 30.001+

Metro Area TAZs

Legend
TAZ2010 Distance (mi)
- 0.050 - 0.500
- 0.501 - 1.000
- 1.001 - 2.000
- 2.001 - 4.000
- 4.001 - 6.000
- Metro Area TAZs

N
Operating Cost of Transit Routes - Weekdays

• 2015 cost data provided by Metro Transit
• Cost per rider ranges from $2.95 to $44.95
• Some costly routes:
  • Route 565 with $44.95, eliminated Mar 2016
  • Route 415 with $19.13, MoA to Mendota Heights
  • Routes 20, 30, 272, 353, 588, 664, 674 with $10+
Operating Cost of Transit Routes - Weekdays

- Routes clustered by ridership and operating cost per ride
- Higher the ridership, lower the cost
- Mid-low ridership routes with high cost could be candidates for revisit

- Express routes are “expensive”, yet being more “cost-effective”
- Other considerations beyond cost

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Operating Cost of Transit Routes - Weekends

Routes by operating cost per rider, Saturdays
Routes 25, 46, 65, and 67 have $10-$15 cost

Routes by operating cost per rider, Sundays
Routes 7, 16, 46, 65, 67, 70 and 675 have $10-$16 cost
Limitations and Recommendations for Future Studies

• This study was based on:
  • 2010 TBI data, with limited sample for ridesharing and multimodal trips
  • Genetic travel behavior analysis due to small sample, user groups were not considered
  • Aggregate transit cost analysis using the data provided by Metro Transit

• Future studies can include:
  • Using recent and new travel behavior data from TBI and other sources
  • Conducting disaggregate transit cost analysis, by time of day, season, especial destinations, etc.
  • Evaluating potential ridesharing scenarios and developing optimal decisions