

## **ESTIMATING IMPACT OF CO-PAYS**

The purpose of this material is to describe co-pay options as part of crafting a sustainable transportation system within Sudbury, in order to inform discussions of system policies. The first section is an overview of current data, including some conclusions drawn from a variety of co-pay estimates and a stated set of assumptions. The second section provides the calculations that resulted in the prior conclusions. The goal is not to prescribe options but to illustrate important topics for discussion.

### **Overview of Current Data and Some Conclusions**

Sudbury's current policy has been to peg the Uber co-pay to the CoA van rates; i.e., \$1 for rides within Sudbury and \$2 for rides to contiguous towns. A co-pay of \$10 for rides up to 25 miles from Sudbury has no equivalent, because that range is beyond the CoA van service area. The cost of each ride beyond the co-pay is subsidized by the Town. Because they have been subsidized by the Metropolitan Area Planning Commission (MAPC), taxi rides currently have no co-pay.

As we move towards a sustainable transportation system in the town, we could peg the co-pays to other area towns and replace our Uber geofences with "miles from Sudbury" (this is subject to change, if we become part of a regional transportation system). For example, riders with an ability to pay could use vouchers and/or a centralized "cashless" system (credit/debit card), with rates according to miles from the Sudbury pickup or destination.

Newton has a within-city service costing \$5 per ride (cashless system); Lexington uses \$5 vouchers for geofenced rides costing \$5, \$10, or \$15. Policies should be clear that certain riders (persons with a disability, financially vulnerable residents, etc.) are eligible for lower rates.

Based on simplified estimates and particular assumptions described in the following section, several conclusions can be drawn:

- Given the sizable difference in cost between taxi rides and Uber rides, copays are likely to make a difference only for Uber rides.
- If residents are faced with taxi costs that are not highly subsidized, taxi volume is almost certain to decrease.
- Moving to a subsidy by the town of taxi service would entail consistent grant funding and/or other "sustainable" means. It should also involve negotiation of rates by the town, for more cost-efficient contracting (i.e., setting up a taxi stand close to or within Sudbury).

- Wheelchair accessible vehicles (WAV) must be available in a sustainable transportation system, and these rides (though few) are expensive and should be subsidized for residents needing them.
- Because every transportation option will involve some subsidy, the Town needs to examine how best to make the service part of the annual budget.
- A key estimate *not* addressed is price-elasticity of demand; that is, how will changes in pricing (co-pays) affect the volume of rides by service provider.

### Calculations To Inform Discussion

To estimate resources that could be generated by the above co-pays, we must first define at least the following variables:

1. Geofence miles (e.g., within Sudbury, 10 miles from Sudbury pickup/destination, within 25 miles from Sudbury pickup/destination)
2. Likely volume of riders in each geographic category with an ability to pay stated rates
3. Likely volume of riders in each category unable to pay stated rates
4. Transportation provider costs for each geographic category

Below, I illustrate estimates based on actual taxi/Uber cost and usage as well as current geofencing.

#### First Estimation: Actual Data

##### Taxis (5 months, 2020, no restrictions)

Tommy's: 259 rides

- Cost tiers
  - 20% = \$10-\$29
  - 40% = \$30-\$49.50
  - 40% = \$50-\$141

JFK: 208 rides

- Cost tiers
  - 36% = \$10-\$29
  - 43% = \$30-\$49.50
  - 21% = \$50-\$180

##### *Assumptions*

- No change in ride volume or percentage in each tier
- Tiers are close approximations of mileage from Sudbury

- Total one-way rides = 467
- Simplify to three cost tiers, combined rides (both companies)
  - 25% tier 1
  - 40% tier 2
  - 35% tier 3
- Co-pays
  - \$5 tier 1
  - \$10 tier 2
  - \$15 tier 3
  - TOTAL CO-PAY (\$589 + \$1,848 + \$2,426) \$4,863

At an average taxi ride cost of \$92 and a total cost of about \$43,000, the above co-pays will cover a little more than 10% of actual costs. Clearly, if ride volume by tier changes, resources will also change (more, less).

Actual Data Uber (latest 3 months 2021, no restrictions)

Total rides: 456

- Cost tiers
  - 17% = \$5 - \$14.99
  - 51% = \$15 - \$29.99
  - 32% = \$30 - \$92

*Assumptions, Uber:*

- No change in ride volume or percentage in each tier
- Tiers are close approximations of mileage from Sudbury
- Simplify to three cost tiers
  - 20% tier 1
  - 50% tier 2
  - 30% tier 3
- Co-pays
  - \$5 tier 1
  - \$10 tier 2
  - \$15 tier 3
  - TOTAL CO-PAY (\$456 + \$2,280 + \$2,052) \$4,788

At an average Uber ride cost of \$27 and a total cost of about \$12,300, co-pays will cover about 40% of actual costs, subject to same conditions as above.

## **Second Estimation: Changing Assumptions, Uber**

The current geofencing allows a very generous geographic coverage. For example, a rider living in the Northwood development on the Lincoln line, with a destination of Tenet Health medical center in Framingham, is traveling to a contiguous city that is more than 10 miles away. For Uber's second tier (i.e., contiguous town/city), a change to geofencing by miles could increase the amount of copays, assuming stable ridership.

### *Assumptions*

- Tier 2 rides decrease from 50% to 30%
- Tier 3 rides increase from 30% to 50%
- Same number of rides (total = 456)
- Total copay increases from \$4,800 to  $(\$456 + \$1,368 + \$3,420) = \$5,244$  or 43% of actual costs.