Metrics

INTRODUCTION

New technologies and mobility options are changing the landscape of cities almost overnight. These new services have tremendous power to transform both the way we move around our cities and how our cities are designed. As these technologies become increasingly available it will be important to measure their benefits and consequences for our communities

enter search term

I t's difficult to accurately predict the impacts new technologies and services will have on city. And, although the tools are new, to maximize their positive potential, cities will need to clearly define what challenges they are facing, what long-term outcomes they're striving for, and how exactly these technologies and mobility services should contribute to their success.

A robust set of metrics will enable cities to straightforwardly evaluate the impacts of new services. This data-driven approach will help prevent cities from getting lost in the web of information, anchor these services toward advancing the city's long-term outcomes, and help maximize the benefits for their communities. And, while measures of positive impacts are critical for demonstrating success, understanding and tracking potential adverse impacts is equally as important. By collecting data focused on potential negative outcomes, cities can learn how to mitigate any adverse impacts when these services are deployed on a larger scale.

Successfully evaluating the impacts of new technologies and services on our communities will require a wholly new approach to performance metrics. Cities cannot afford to take the easy route and use outdated metrics that were designed with other mobility options or other community goals in mind. T4America and the Smart Cities Collaborative participants developed a set of suggested metrics that cities may use. But, cities will need to consider which metrics are most appropriate for them as well as how they will collect and analyze data necessary to inform those metrics.

Possible Metrics for Use

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Metrics should be based on desired outcomes and simple, but detailed enough that they are effective indicators. A broadly defined metric, such as "reduce congestion," may not result in the level of data needed to assess the impact of a project. Does the project aim to reduce highway or urban congestion? Peak or off-peak congestion? Cities should keep this in mind as they develop proxy metrics for data they are unable to collect directly. Metrics should also be re-evaluated regularly in order to ensure they are accurately tracking progress towards desired goals.

The metrics below are only suggestions and cities will need to consider which metrics are most appropriate for them as well as how they will collect and analyze data necessary to inform these metrics.

Safety

INDICATORS

Injuries

Crashes

User compliance with rules

Comfort on routes/availability of low stress route

Average speed

Access

enter search term

INDICATORS

Trip purpose: connections to transit, connections to service, connections to job

Trip length

Mode share

How often used

Access to work and necessities

Vehicle location to transit, jobs, other necessities

Reach/walkshed

Average vehicle density

Equity

INDICATORS

User demographics – slice by income, age, gender, ability

Vehicle distribution

Fee structure – connection to use

Community engagement (number of events, attendance, street team, etc.)

Environment

enter search term

Air quality/CO2

VMT impact: use of service, redistribution

CO2 footprint of vehicles

life span of vehicles/batteries

Economic

INDICATORS

Who hired (type of company, location)

Number of jobs/quality

Sales in served corridor

New development

City budget impact (fees and parking)

Transit impact (short vs. long)

Operations And Maintenance

INDICATORS

Mean time to failure

enter search term

Condition of vehicles

User experience – but make it nuanced

Disposal of surplus equipment

Geographic Coverage

INDICATORS

Total area served

Rebalancing needs

Stagnant bikes

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HOW WAS THIS REPORT CREATED?

WHAT IS SHARED MICROMOBILITY?

Prepared by Transportation For America