

OUR ROUTE TO CREATING STREET SMOOTHNESS MEASURES



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More than two years of research preceded our initial survey of the smoothness of the city's streets. First, we listened to New Yorkers of various ages, income and ethnic groups, from communities in all five boroughs talk about the information they use to rate all local government services. Fifteen focus groups were conducted for the Center on Municipal Government Performance by the internationally recognized social science research firm, DYG, Inc.

By listening to the focus group participants, we learned that the maintenance of city streets was important to the public, not only for the obvious reasons of safety to riders and pedestrians, prevention of damage to vehicles and traffic flow, but for symbolic reasons as well. When streets are well maintained and smooth, people think government is doing its job; when holes are not repaired, or repairs are done in a poor manner, people feel let down by their government. Since practically everyone sees and engages with the streets every day, just about everyone has an opinion about the streets and about government performance.

New York City officials watched and listened to videotapes of the focus group discussions and noted that the city does not measure the smoothness of the streets. With ongoing consultations with city officials throughout our work, the Center on Municipal Government Performance then undertook a series of steps to produce accurate measurements that the public and government can use.

- We reviewed the literature on pavement smoothness and pavement measurement. We consulted with transportation and surface measurement experts here and abroad to find other places where city street smoothness had been measured. We found none, although much measurement work has been done on highways and runways.
- We reviewed various technologies and approaches to measuring surface smoothness and tested different approaches on New York City streets. The application of profilometry was, by far, the best way to produce reliable, objective information on the street surfaces in a way that reflects the way people experience the streets as they ride over them or walk on them.
- Focus group participants were driven on streets that had just been measured by profilometers and were asked to rate the streets from their own perspective. There was a very high correlation between the people's ratings and the profilometer readings. The people set the cut-offs for the ratings that appear in this report. They also suggested the ratings labels we have used including the smoothness categories of "acceptable" and "not acceptable" along with their components, "good," "fair," "poor" and "terrible." And the focus group participants also determined the threshold we use in these reports for considering a jolt "significant."
- In the fall of 1997, a car outfitted by Galaxy Scientific Corporation measured the smoothness and bumpiness of 670 miles of randomly selected streets in all 59 community districts of New York City.
- The report of the findings of the first survey was released in September 1998. It introduced two new measures of the condition of the city's streets that reflect the way people say they rate the streets: a **Smoothness Score**, and a **Jolt Score**.

- The report contains smoothness and jolt scores for the city as a whole, for each of the five boroughs and for all 59 community districts. Findings are presented in tables and on maps to enable community groups and government to make comparisons among districts.
- With baseline information in place, we have now conducted a second survey of the smoothness of New York City's streets, approximately two years after the first. This second survey, the results of which are presented in this report, is the first step in providing consistent information that the public and government can review to identify significant changes in the conditions of the streets overall and at the borough and community district level. The second survey also gave us the opportunity to further test the methods and procedures for measuring city streets.

The Route to Creating Street Smoothness Measures



1. Listened to New Yorkers in DYG Focus Groups

Listening and Learning

2. Reviewed Technology/
Conducted Pilot Tests

3. Matched Objective Measures to Citizens' Perceptions

Measuring and Confirming

4. Surveyed 670 miles of streets --
Sampled all 59 Community Districts

Analyzing and Communicating

5. Briefed NYC Government

6. Disseminated Findings (Report Number One)

Repeating the process

7. Surveyed 670 Miles of Streets Again

8. Analyzed How and Where Conditions Changed

9. Briefed NYC Government

10. Disseminate New Findings (Report Number Two)



DESTINATION: Further Retesting. Smoother Streets.

Ongoing Consultation with New York City Government