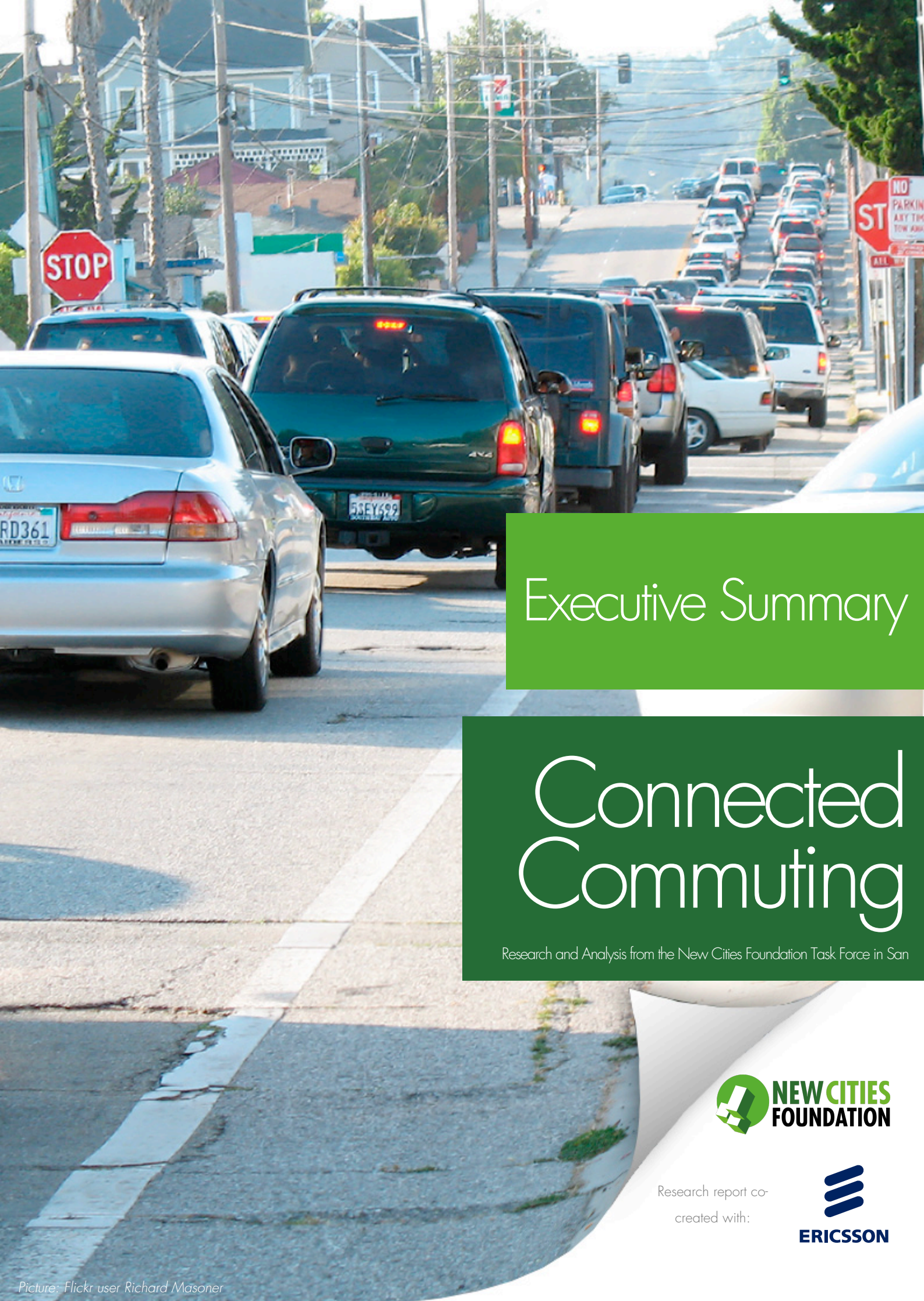

Executive Summary

Connected Commuting

Research and Analysis from the New Cities Foundation Task Force in San

NEW CITIES FOUNDATION

Research report co-created with:

ERICSSON

Picture: Flickr user Richard Masoner

Urban traffic and the difficulties of commuting are among the most intractable problems that face cities across the world. Traffic congestion and commuting inefficiencies place a heavy strain on urban infrastructure, increase pollution, damage the environment, and lead to loss of resources, time and productivity. On a personal level, commuting has been identified as one of the most unpleasant urban experiences and is often associated with very high levels of stress.

The New Cities Foundation — a non-profit organization dedicated to creating more sustainable, dynamic, creative and just global cities — and Ericsson, the world's leading provider of communications technology and services and a Founding Member of the Foundation, have set up a Task Force on Connected Commuting, in partnership with the San Jose Department of Transportation, the University of California Center for Information Technology Research in the Interests of Society (CITRIS), and two start-up commuter-focused mobile applications, Waze and Roadify.

This study aims to look at the potential benefits of connecting commuters to one another through mobile phone apps. It seeks to compare experiences of connected and "unconnected" commuters, and examines the kinds of information commuters share with each other. **Can a new level of networking between commuters enhance the overall commuting experience?** Is the connected commute "better" than the non-connected commute? Is it more rewarding and less stressful? Is it shorter and potentially cheaper for the user? From a city perspective, is it more resource efficient? Does the connected commute reduce Co2 emissions from transportation? Finally, what aspects of existing tools based on user-generated data should be pushed or developed further to create more powerful positive impact for commuters? This study is an important milestone regarding the power of data generated by social networks.

The broader ambition of the Task Force is to develop new potential technologies, products and services to improve commuting, and completion of this study is an important step forward.

Main findings and Recommendations

Part I: Commuter Sentiment Analysis

1. Commuter comments collected by smartphone commuter applications provide valuable high-quality real-time data about commuters' sentiment in relation to their commutes.

2. The existence of a general platform allowing users to share feelings about their commute could in itself contribute to a more enjoyable commuting experience by adding a conversational element, which users seem to value highly.

3. Government and/or employer programs should consider conducting sentiment analysis to help identify and prioritize their efforts to address commuters' frustration by time of day, day of week, locations and other topics of concern to commuters.

4. Trip planning applications should use historical analysis of commuter sentiment to provide route guidance based on positive user experiences on specific routes; these apps should also provide a feature that allows commuters to rate their travel experience, which can be used for further analysis.

5. Transportation and traffic management authorities should consider using sentiment analysis as a real-time, cost-effective metric for evaluating the impact of infrastructure investments. This method is more effective than traditional surveys.

Part II: Comparative Focus Groups

1. Public transportation commuters are different from car commuters.
    - Commuters using public transport see themselves as knowledgeable and experienced. They don't immediately see the benefit in receiving information from other commuters.
    - Car commuters, on the other hand, are looking to connect while in the car. Their "alone time" creates a prime environment for connecting and sharing.

2. Within the group of public transport users, connected and unconnected commuters are similar.
    - Importantly, they are already connected to others physically while commuting, and this minimizes the need for connection through technology.
    - Both describe themselves as "experienced" and believe they "know what they're doing."
    - They use technology while planning routes, more rarely during the commute itself.

3. Within the group of car commuters there are slight differences between connected and unconnected commuters; in general, connected car commuters seem somewhat happier.
    - Connected car commuters describe themselves as "happy" / "content" / "excited." Their biggest complaint is that they are "busy."
    - Unconnected car commuters describe themselves as "neutral" to "happy." Their main complaint is "fatigue."

4. Unlike public commuters, car commuters recognize a need for technology at both the planning stage and during the commute.
    - For car commuters technology assistance is needed:
        - In the planning stage: deciding the mode of transportation or route.
        - Real time: re-routing around traffic and other incidents.

5. There is one key difference between connected and unconnected commuters: how they feel about sharing information with people they do not know while commuting.
    - Connected commuters are very open to sharing (and receiving) information from people they don't know while commuting. They appreciate receiving information, and this makes them more interested in "giving back" information in the future.
    - Unconnected commuters have mixed to negative feelings, particularly about receiving information from those they don't know. They do not naturally trust crowd-sourced information and believe it may be wrong, or even worse, intentionally misleading.

6. Technology is integral to the future of commuting.
    - Everyone (connected or not connected) uses technology on some level during or before their commute.
    - There is a real opportunity to please commuters and enhance the commuting experience through future app technology.