



# connected sustainable cities

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Printed in the United States of America.  
First printing 2008.

ISBN-13: 978-0-9821144-0-7  
ISBN-10: 0-9821144-0-0

Library of Congress Cataloging-in-Publication Data

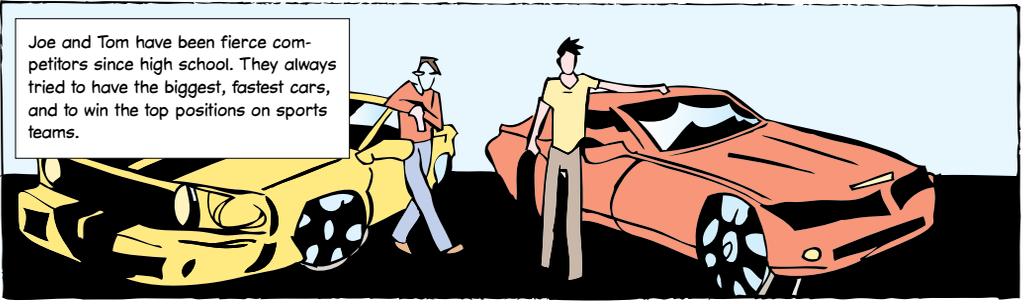


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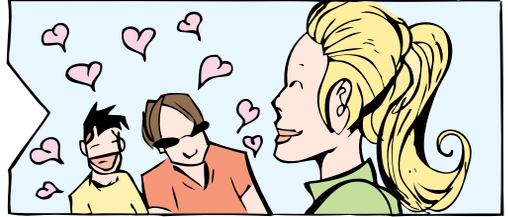
[www.connectedurbandevelopment.org](http://www.connectedurbandevelopment.org)  
[www.mobile.mit.edu](http://www.mobile.mit.edu)

*Illustration Coordination, Daniel Cardoso*  
*Book design by Pamela Botacchi, Pearl Graphics*

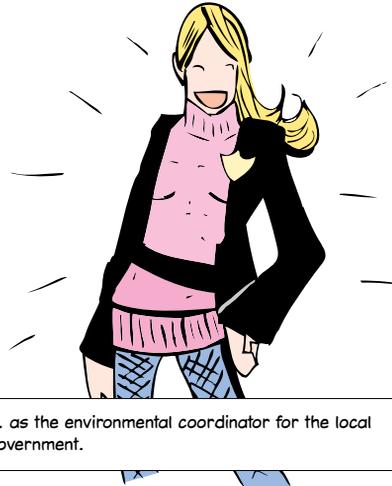
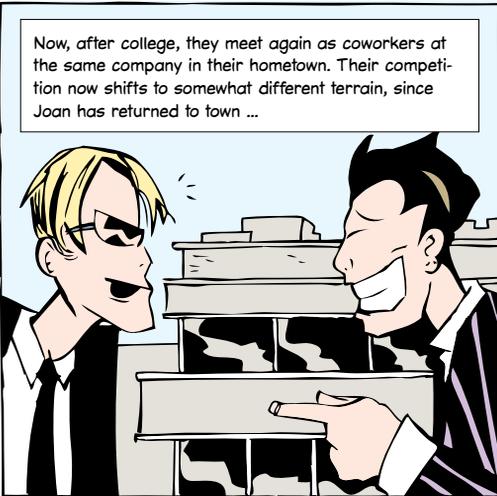
Joe and Tom have been fierce competitors since high school. They always tried to have the biggest, fastest cars, and to win the top positions on sports teams.



They even competed for the attention of the same girl, their beautiful classmate Joan.



Now, after college, they meet again as coworkers at the same company in their hometown. Their competition now shifts to somewhat different terrain, since Joan has returned to town ...

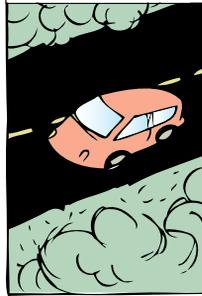


... as the environmental coordinator for the local government.

The two men now take public transportation to work.



They've traded in the huge, gas-guzzling cars they drove when they were younger for smaller, fuel-efficient automobiles that they drive mostly on weekends outside the city.



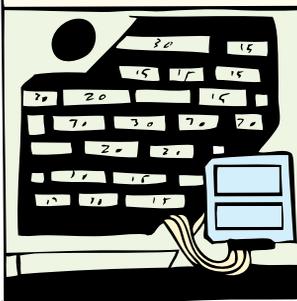
They have both begun to monitor their activities to decrease their carbon footprints and energy budgets both at home, when on the move, and at work.



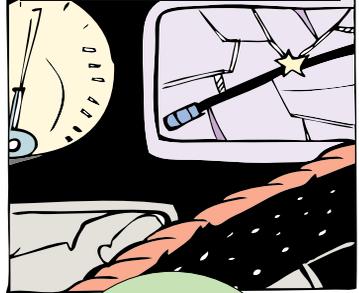
Tom installed a device that helps him monitor his water footprint by tracking his water use ...



... and an electricity monitor that works in real time, helping him make decisions that reduce wasteful use of appliances and lights.



For his part, Bill has been using his hybrid car's monitoring system to achieve better fuel-efficiency than Tom. He also uses it to monitor in real time how far he can drive while conforming to specific energy, fuel, or time budgets.



**WHILE OFF WORK...**

Every morning, Tom launches an online application to specify time, carbon, and energy budgets for the day. This lets him see his energy spending in real time and helps him find the most optimal routes.



TOM HAS BEEN USING HIS **PERSONAL TRAVEL ASSISTANT** TO TRACK HIS TRAVEL AND HIS CARBON FOOTPRINT IN REAL TIME

Bill and Tom are obsessive about the results of their choices; they have all the information available thanks to the energy-monitoring applications of their devices.



Joan is amused by her friends' new style of "eco-flirting," but she knows quite well that the biggest beneficiary of their healthy competition is **PLANET EARTH.**



## about the authors

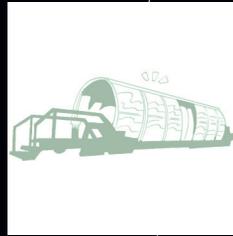
**William J. Mitchell** is Alexander Dreyfoos Professor of Architecture and Media Arts and Sciences at the Massachusetts Institute of Technology, director of the Smart Cities research group at the MIT Media Laboratory, and director of the MIT Design Laboratory. He was formerly dean of the School of Architecture and Planning at MIT. He has played a leading role in the ArchNet, FACADE, and Palladio Virtual Museum projects. His latest books are *Imagining MIT: Designing a Campus for the Twenty-First Century* and *World's Greatest Architect*, both from MIT Press.

**Federico Casalegno** is the director of the MIT Mobile Experience Lab and associate director of the MIT Design Laboratory. A social scientist with an interest in the impact of networked digital technologies on human behavior and society, he both teaches and leads research at MIT, focusing especially on the area of rethinking and designing interactive media to foster connections between people, information, and physical places using cutting-edge information technology. Most recently, he is leading a new strategic alliance with the Fondazione Bruno Kessler in Trento, Italy, to build a pioneering sustainable connected home.

Connected sustainable cities, which will evolve over the next decade, employ ubiquitous, networked intelligence to ensure the efficient and responsible use of the scarce resources – particularly energy and water – that are required for a city's operation, together with the effective management of waste products that a city produces, such as carbon emissions to the atmosphere.

Through a series of prospective scenarios, *Connected Sustainable Cities* illustrates some of the ways in which inhabitants may use and manage their living spaces, move around the city, work, shop, pursue their educational, cultural, and recreational interests, and make well informed, responsible personal choices. These scenarios are accompanied by brief sketches of the existing and emerging technologies, products, and systems that will support new, intelligently sustainable urban living patterns. In addition, there are short discussions of some of the theoretical, policy, and design issues that these scenarios raise.

*Connected Sustainable Cities* is a starting point for the investigations and debates that will be necessary as citizens, technologists, designers, policy experts, and political and business leaders begin to shape the new urban areas we urgently need to create in the near future.



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www.fsc.org Cert no. SW-COC-002514  
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Printed in the USA with soy based inks  
on FSC certified paper

ISBN-13: 978-0-9821144-0-7

ISBN-10: 0-9821144-0-0



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