



A BETTER CITY

CHALLENGE for
SUSTAINABILITY

*Business and Institutional Leaders
Working Toward a Sustainable City*

Supporting and Recognizing Clean Air Commuters 30 May 2012

BARR FOUNDATION

tBf The Boston
Foundation



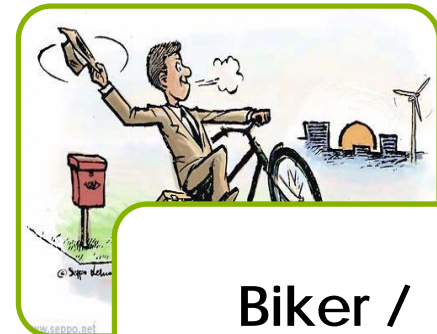
Agenda



Introductions



**Electric
Vehicle
Charging**



**Biker /
Walker
Program**



Introductions



Time



Money



Convenience



Health



Environment

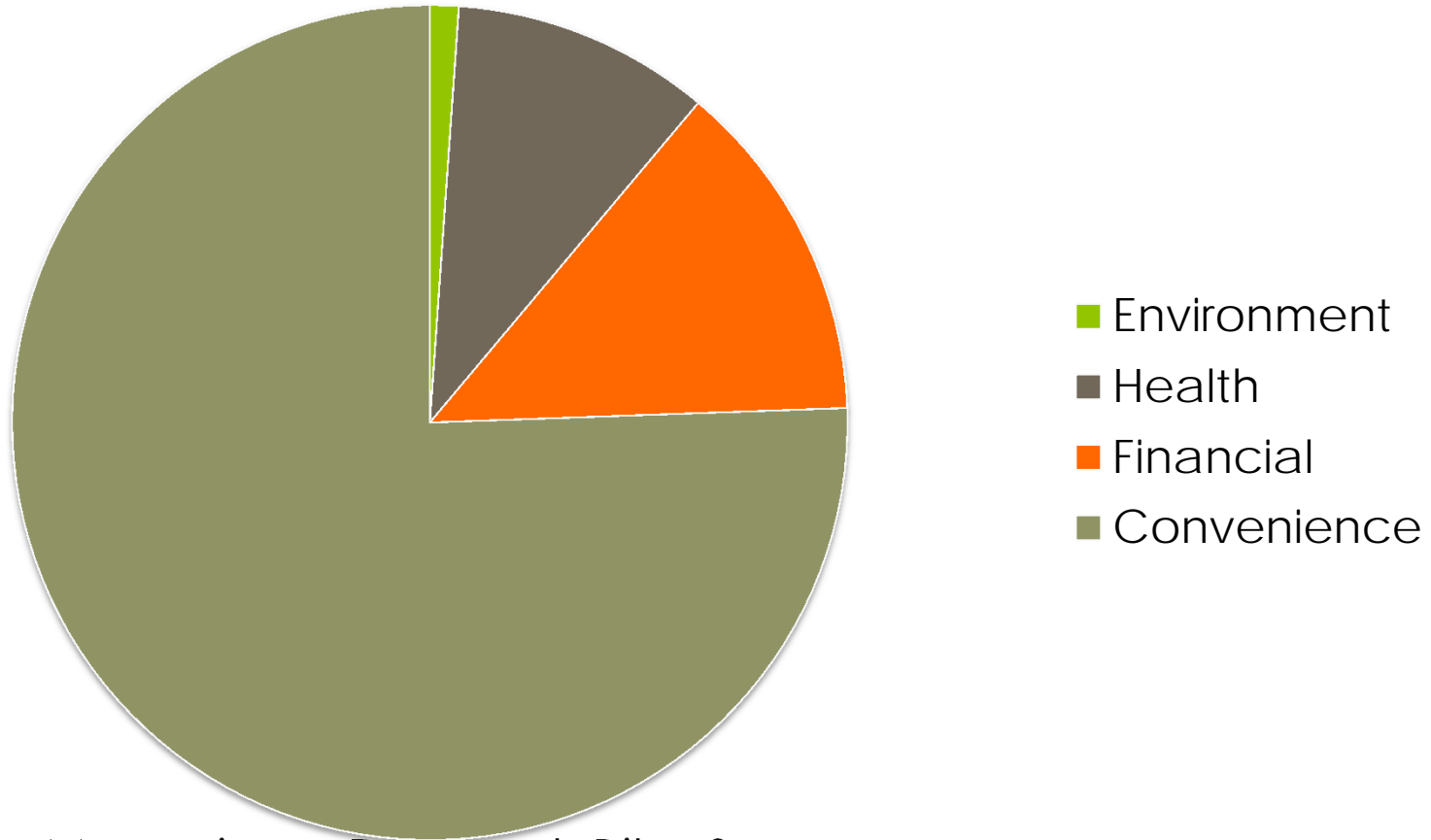
Introductions

EV Charging

Bike & Walk



What should be your biggest consideration?



Mobility Magazine – Denmark Bike Survey

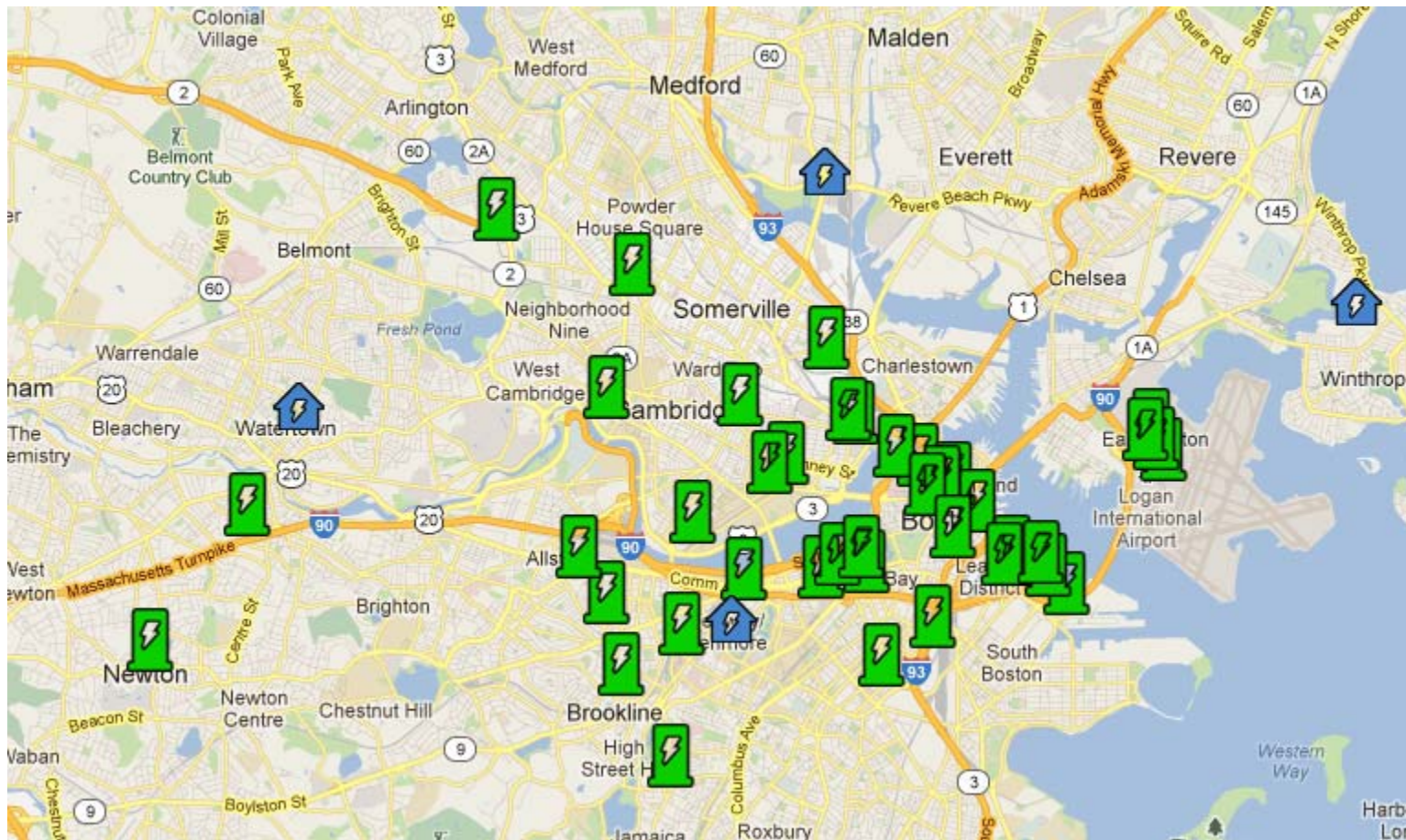
Introductions

EV Charging

Bike & Walk



Electric Vehicle Charging



Introductions

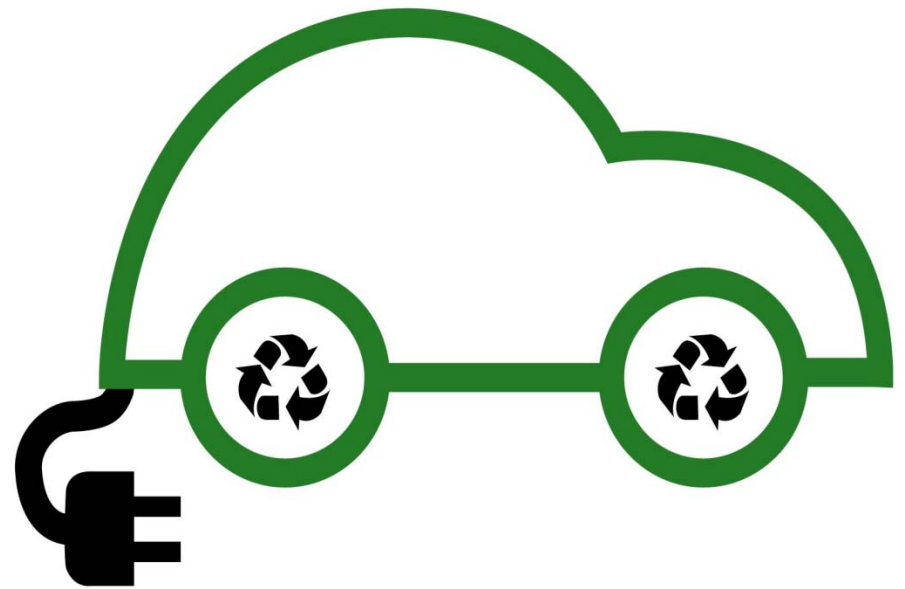
EV Charging

Bike & Walk



Electric Vehicle Charging

- Stephen Russel,
Massachusetts
Department of
Environmental
Resources
- Rachel Szakmary,
Transportation
Planner, City of
Boston



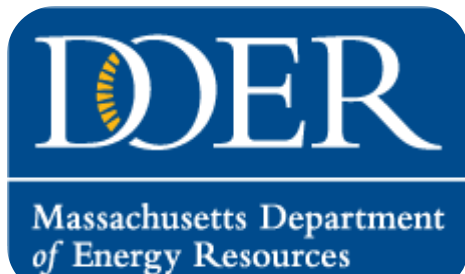
Introductions

EV Charging

Bike & Walk



Creating A Greener Energy Future For the Commonwealth



The EV Landscape EVSEs and cars?

Stephen Russell
Alternative Transportation Program
Coordinator, DOER
May 30, 2012 A Better City

Creating A Greener Energy Future For the Commonwealth

DOER

Massachusetts Department
of Energy Resources

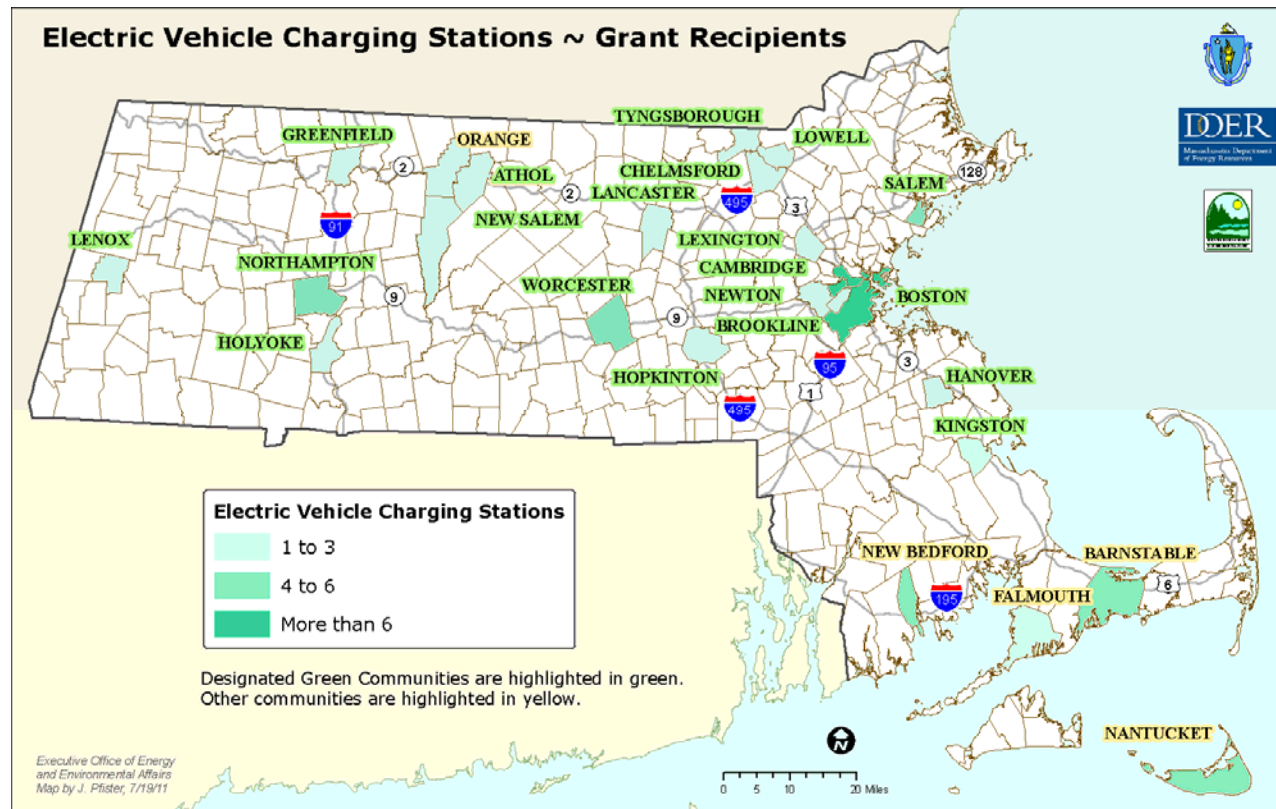


DOE Clean Cities

- Massachusetts along with 16 other Clean Cities coalitions from DC to Maine are participating in DOE's EV planning grant.
- This grant is looking at Policies, Infrastructure, Etc. in the region.
- Georgetown Climate center and NYSERDA are leads on the grant.

142 supply stations in 25 communities

- Roughly 60 miles apart



Where are all those EVSEs?

- DOE Fueling station locator:
- <http://www.afdc.energy.gov/afdc/progs/index.php/MA/ELEC>



Electric Vehicle Supply station or EVSE

For all EV cars: Electric Range: 60 - 200 Miles, depending on battery size

For hybrid electric plug in 20 to 60 miles
Then engine takes over

- Level 1 - 120v
- - 12 to 18 hours to charge on Level 1
- Level 2 - 240 v (40 amp)
 - 4 to 6 hours to charge on Level 2



Level 2 charger

**Some of the vehicles in the pipeline
for 2010-12 - They are now available !**

Chevrolet



Nissan



Ford



Mitsubishi



Smart



Tesla



DDER

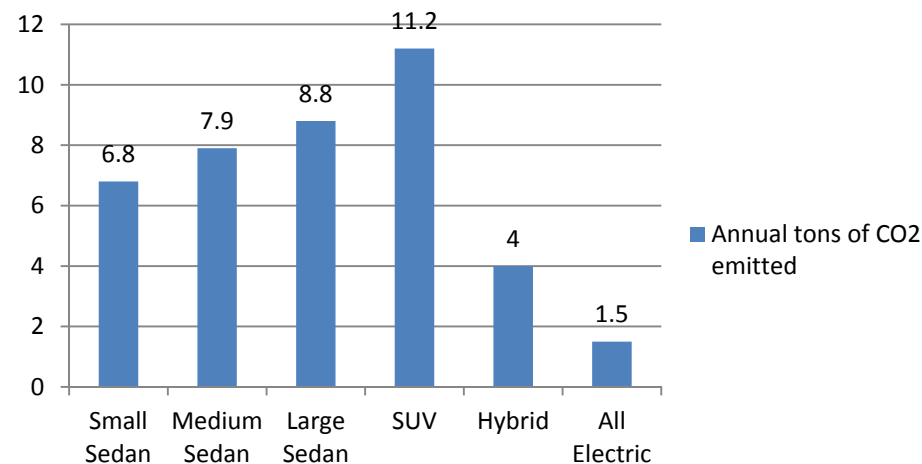
Massachusetts Department
of Energy Resources

Incentives

- Incentives must be revenue neutral (no effect on budget state budget so..... Tax incentives for purchasing EVs would not be acceptable
- Providing grants for electric vehicle supply stations so that the infrastructure could be provided to reduce range anxiety made sense

Electric vehicles and the environment

Annual tons of CO2 emitted
Based on ISO New England generation profile



Can the utilities handle the electricity demand?

- They say yes!
- Communication with utilities is important!
- V2G - Vehicle to grid or V2H vehicle to home
- Long term - the utilities see this as a benefit to even the grid load.
- Time of use charging needs to be explored
- Are we trading dirty cars for dirty grid – NO
- The grid is getting cleaner every day!
- 12.5% of our ISO New England grid is non petroleum & it gets cleaner every day !

Contact information



Contact info:

Stephen.Russell@state.ma.us

617-626-7325

Or

Linda.Benevides@state.ma.us

EV license plates now available at your RMV office for EVs, PHEV's ,and HEVs

Massachusetts - Commitment to the Environment

- The Patrick-Murray Administration has already made key commitments that support early introduction and use of electric vehicles in this state. These include:
- Legislation:
 - the Green Communities and Global Warming Solutions Acts :
This has made the State one of the first states in the nation to move forward with comprehensive regulatory program to address climate change ,

Charging Infrastructure for the CAPE

The Cape must provide for three types of EV users:

1. Visitors - those that come from way off who will be staying at a Vacation resort. Depending on stay- (Public Charging) Level 1 or 2 EVSEs
2. Locals that work on the cape. (Workplace charging) Level 1 EVSE
3. Locals that are retired and are driving for services. (home charging) level 1 or 2 EVSEs

Mass Commitment - continued

- Policies:

- policies and leadership on a regional commitment to develop a Low Carbon Fuel Standard in order to reduce greenhouse gas emissions from fuels for vehicles,

- Regulations:

- Adoption of the California Zero Emission Vehicle (ZEV) standards to encourage ZEV production and sales, and

- Programs:

- Leading by Example, Green Communities and Clean Cities that have helped convert hybrids to electric plug-in hybrids, worked with another car manufacturer to test prototype plug-in hybrids at state colleges, and working with our state procurement office to ensure the purchase of environmentally preferred products including centralized vehicle purchasing and in the near future, place charging stations on state contract that our 364 municipalities can use.

Major Automaker Production Plans:

EV Market Launch

Nissan Leaf



Chevy Volt is coming

Ford production all electric Focus

All EV Transit connect



EV Transit Connects (demo) fall 2010

More Models

More OEM's



Boston area to get E Smart cars Fall 2010 (demo)

January 2011 MA to get PHEV Dodge Ram truck 's(demo)



2010



2011



2012



2013



2014



PHEV's on the way

The vehicles are coming!



EVs and ICEs Have About The Same Efficiency

WELL  Pump



Power generation  Transmission  Battery charger

EVs: 30% efficient

Pump  Wheels

Battery Electric vehicle

80% efficient

Refinery  Transportation  Gas Pump

Internal combustion engine vehicle

ICEs: 90% efficient

*

Statistic courtesy: M.J.Bradley

25% efficient

PARKING & SUSTAINABILITY: THE CORE OF FUTURE URBAN MOBILITY



Evolution of Sustainability Awareness

Background – Canopy Airport Parking



Evolution of Sustainability Awareness

Background – Canopy Airport Parking

Canopy Airport Parking – LEED Gold Facility

- 4,600 space facility in Denver CO // 45 acre site
- Powered by Wind & Solar
- Heated – Geothermal
- Lighted - LED Lighting
- Transportation - Uses Alternative Fuel Shuttle Buses
- FREE EV Charging
- Other LEED Design Elements
 - Recycled Steel used in Canopies and Buildings
 - Utilized Recycled Roofing Tiles for Pavement
 - Desert Landscaping using minimal water
 - White Roofing to reflect heat
- Achieved 96% occupancy in 1st year of operation



Canopy gave rise to the Green Parking Council

GREEN PARKING COUNCIL

- “A-ha” moment occurred during Canopy Development process
- 40,000 garages across the country with no standardized Sustainability Rating system
- Formed 501.c.3. not for profit to create forum for all parties in the parking industry to have a voice on Sustainability Standards
- Grew the Green Parking Council (GPC) from handful of volunteers to over 75 volunteers and a full time staff of 4
- Partners & participants include groups such as:



Brookfield

AECOM

Hines

IPI INTERNATIONAL
PARKING
INSTITUTE

 NATIONAL
PARKING
ASSOCIATION



 the **nature** of
parking is changing:

Source: A. Voth

THE CHARLES HOTEL GARAGE is proud to be a Green Parking Council Demonstrator Site. Our alliance with the environmentally responsible non-profit leadership organization helps bring real change to the way cars are parked today, for a better tomorrow. Green Parking Council Demonstrator Sites are committed to making improvements to help support sustainability, reduce consumption and to utilize renewable energy. The nature of parking is changing. Right here.

 CHARLES
SQUARE
GARAGE

 GREEN PARKING COUNCIL

www.greenparkingcouncil.org



*Working at the intersection of parking, green building, clean technology, renewable energy,
smart grid infrastructure, urban planning and sustainable mobility*

FOR IMMEDIATE RELEASE:
February 1, 2011

Media Contact
Dennis Safford at 860.527.2378

GREEN PARKING COUNCIL AWARDS THE CHARLES SQUARE GARAGE DEMONSTRATOR SITE STATUS

Cambridge, Massachusetts— Propark America and the Charles Square Garage announced today that the parking facility has been awarded Green Parking Council Demonstrator Site status by the Green Parking Council. The property employs Juice Bar, electric vehicle charging stations, energy efficient lighting, nanoMAX, small vehicle detection systems, a tire inflation unit, a recycling station and a loaner bicycle program.

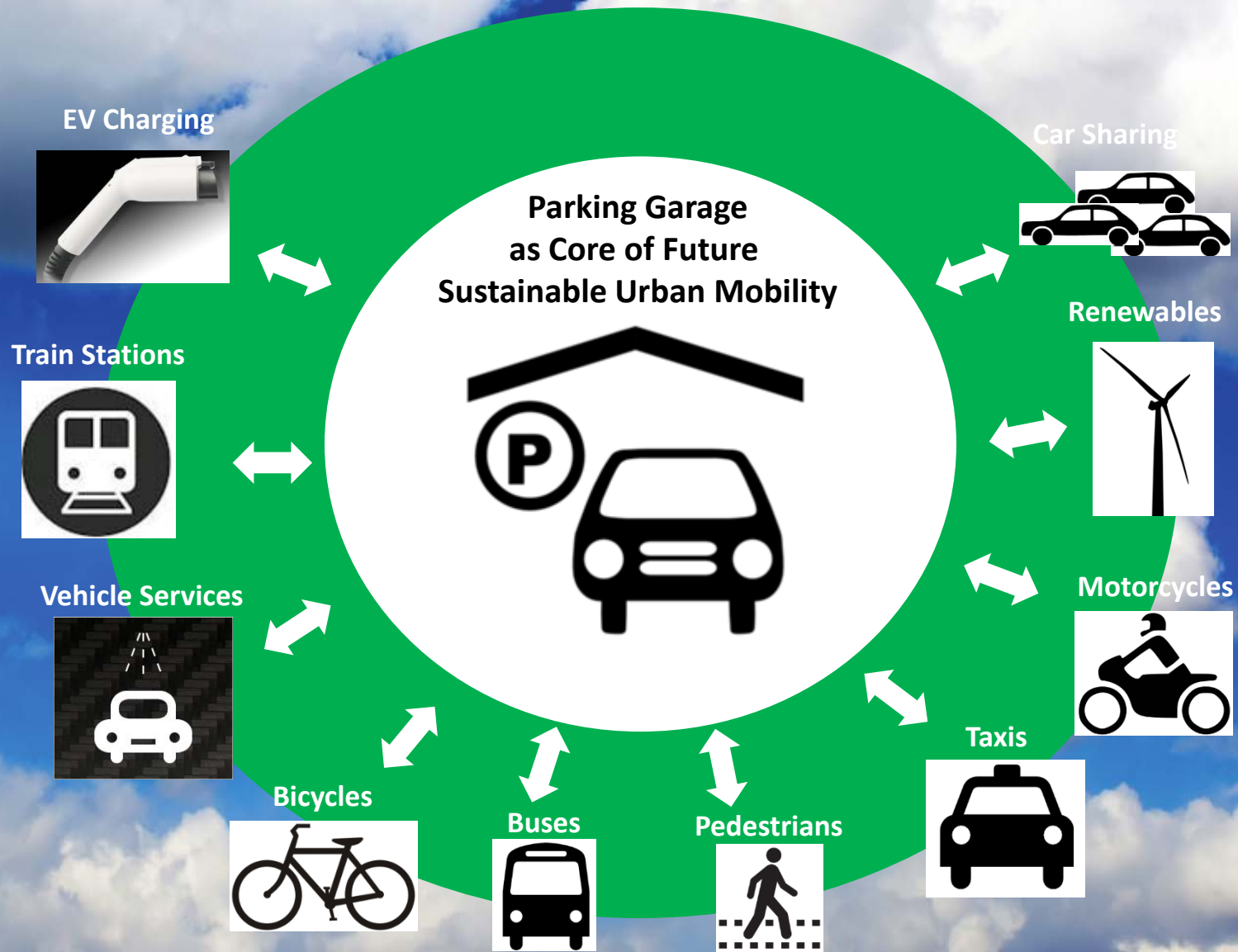
"This achievement signifies our commitment to sustainable best practices," said Scott Manos, chief operating officer of Propark. "We're excited about the technologies and services that are offered at the Charles Square Garage."

By being awarded demonstrator site status, the Charles Square Garage, which is conveniently situated beneath the Charles Hotel, has taken the first step toward becoming a Certified Green Garage when the demonstrator site program concludes at the end of 2011.

"The Charles Square Garage represents an emerging ideology within the parking industry," explained Green Parking Council Executive Director, Marc Alt. "Green parking is a growing trend in North America and what this facility has undertaken over the last year embodies the spirit of this movement."

Parking & Sustainability

The Core of Future Urban Mobility



Who's Releasing EV's?



TAKE AWAY: ELECTRIC VEHICLES ARE OR WILL BE PARKING AT PARKING FACILITIES

Types of EV Chargers

Electric Car Chargers (EVSE)

- Level 1 – NEMA 5
110V – Standard Plug
8 – 14 hrs per full charge



- Level 2 – J-1772
220V – Yozaki Plug
4 - 8 hrs per full charge



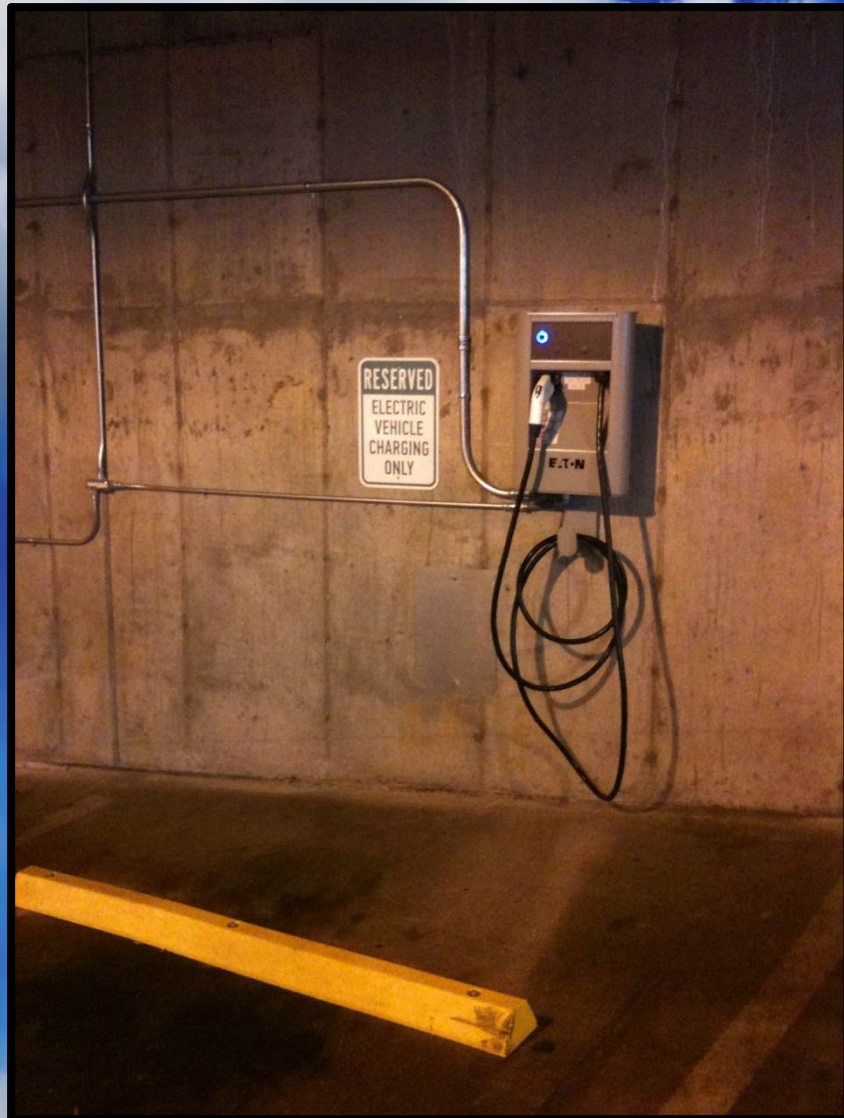
- Level 3 – DC Fast Charge
440V - CHAdemo
15-20 min per full charge



Lessons Learned

Lesson learned from over 60 charge points installed in 9 States and 15 Cities:

- **Installation Cost is the biggest variable (where is the source of power)**
- **Where to Locate?**
 - **Functional vs. Statement**
 - **“Halo” Effect**
 - **Experience is important – OASIS**
- **“Cord Management” is big issue**
 - **Retractable / Pro-active Management of Cord**
 - **Walkways, distance to space, color of signs (blue vs. green)**
- **How long will Parker Occupy the Space**
 - **Valet / Assisted Valet Parking vs. Self Parking**
 - **Level 1 is solution for “all day parkers”**
- **Amenity vs. Revenue Stream**
 - **Marketing / Amenity Expense vs Revenue Generator**
 - **CAM Considerations**



Charging station in Greenville, SC.



EV charging station in a Santa Monica parking garage.

Inspiration...

Green Garage Oasis – EV Experience

Green Garage Oasis

The Green Garage Oasis is the concept of having an environmentally friendly “oasis” in the middle of a facility. The Oasis consists of a number of different, interchangeable product offerings. A facility can choose the entire oasis – **EV Charging Station, LED lighting, RaceDeck Flooring, Tire Inflation Station, Recycle Bins, and/or bicycle racks**. Each of these products increases the level of sustainability and projects the facility’s efforts to become environmentally conscious.



Juice Bar™ EV Charging Station

“Charge Cars, Not People™” is the philosophy which will ultimately result in parkers who use the Juice Bar™ locator app to look for free charging stations in the urban parking market.



Tire Inflation Station

The EPA estimates that we can improve our gas mileage by up to 3.3 percent by keeping our car’s tires inflated to the proper pressure.



Energy Efficient Lighting

Highly efficient and more effective than traditional lighting, LEDs & Induction will reduce your lighting bill up to 80% and last longer than alternative lighting solutions. The lighting will make sure your Oasis is visible for all to see!



Recycle Bins

People will recycle their bottles or newspapers, they just need a place to recycle them. This is an easy solution to increasing recycling.



RaceDeck Flooring

A super tough, high gloss modular garage flooring system that is easy to install. RaceDeck captures attention, and makes sure your social responsibility gets noticed.



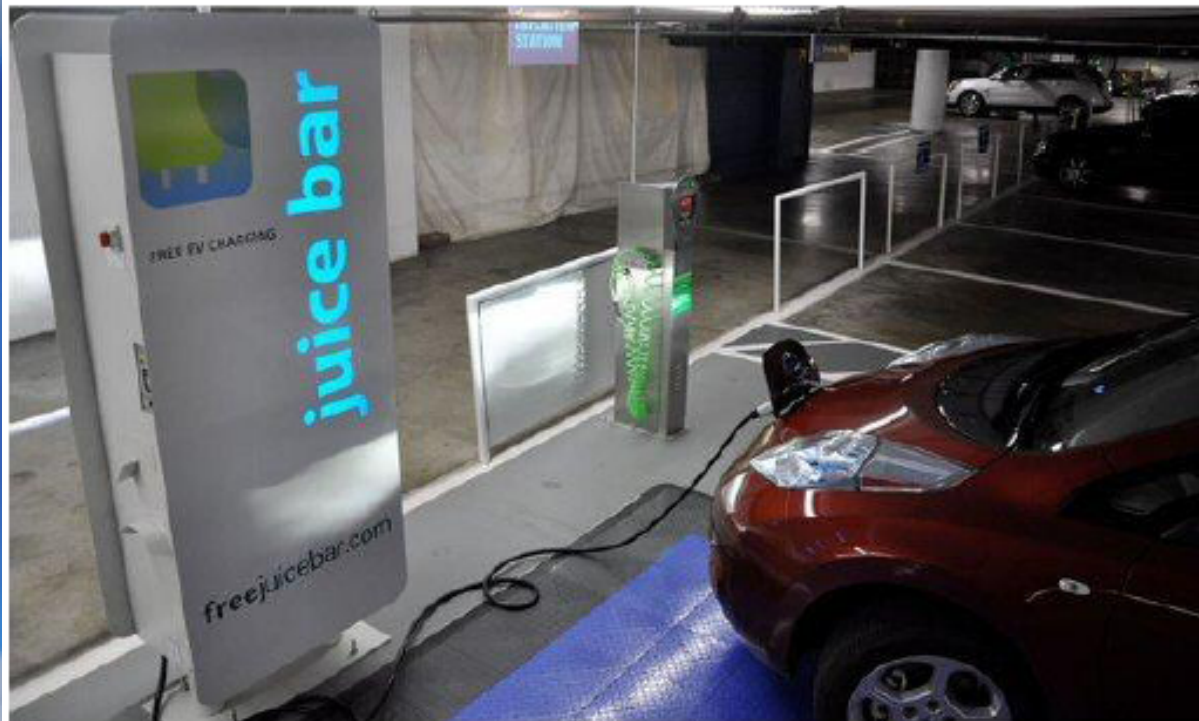
Bicycle Racks

Encourage people to ride their bike by giving them a safe place to store it.

Positive Press For Charles Square EV Charging and Oasis Experience



Feeling Empowered for One Oil-Free Weekend



Ezra Dyer for The New York Times

THANK YOU FOR ALLOWING US TO PRESENT TO YOU



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Boston Office: Sean Lampert, Regional Vice President, Propark Inc. – sean.lampert@propark.com – 617.973.2240



EV Installations Already Completed



Juice Bar & GGO @ Charles Hotel – Cambridge MA



World Trade Center – Bldg 7 - NYC

EV Installations Already Completed



Juice Bar & GGO @ Canopy – Denver, CO



Juice Bar & GGO on Fisherman's Wharf in San Francisco, CA

EV Installations Already Completed



**Juice Bar & GGO @ Omni Hotel
New Haven CT**



**Juice Bar & GGO @ Parc 55 Hotel
San Francisco, CA**

EV Installations Already Completed



Juice Bar & GGO @ Lake Merit Towers – Oakland, CA

Electric Vehicle Charging

Sean Lampert
VP Operations,
Propark



Introductions

EV Charging

Bike & Walk



Bike & Walk Program



Introductions

EV Charging

Bike & Walk



Bike & Walk Program

You forwarded this message on 12/8/2011 4:40 PM.

From: Blake Jackson <bjackson@tka-architects.com>
To: Staff
Cc: Megan Ramey
Subject: Inaugural TK&A Quarterly Transit Recognition Program



Greetings All,

As part of our involvement with A Better City (ABC), TK&A is initiating a quarterly Recognition Program basis using our extensive public transit network. This initiative is a chance to reward and recognize the

This quarter, we wish to recognize Toni MacKenzie. She resides in North Andover, giving her one of the some quality time. From there, she takes the Orange Line from Wellington Station to Downtown Crossing, talks on the phone and texts.

Thanks Toni for sharing your story and showing us you can choose the T even if it is not right at your front door. For everyone else, if you have an interesting story regarding your commute, be sure and share it to be

Best, The TK&A Core Values Group
(Blake, David O., Alan, Chu & Nick)

Tsoi / Kobus recognition of employee commute via email

Introductions

EV Charging

Bike & Walk



Bike & Walk Program

Jennifer Jones
Environmental
Engineer, Genzme



Introductions

EV Charging

Bike & Walk





ABC Challenge for Sustainability

Jennifer Jones

Environmental Engineer, Environmental Affairs

Erik Familial Hypercholesterolemia USA

www.genzyme.com |

genzyme
A SANOFI COMPANY
genzyme
A SANOFI COMPANY

Promoting two wheels to work

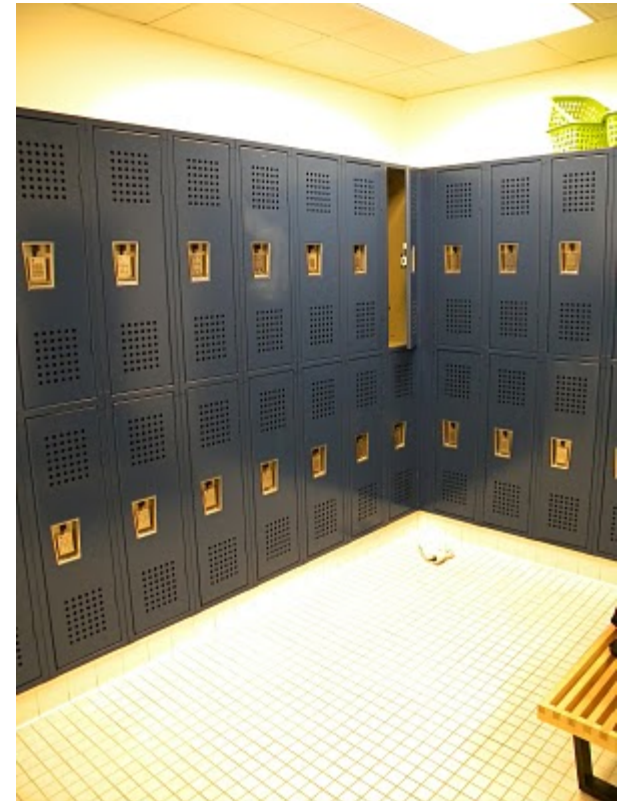
- Bicycle storage and changing facilities in all 10 Genzyme LEED buildings!
- Storage located in parking garages at other facilities
- Guaranteed Ride Home program ensures bicycle commuters have a way home in an emergency.
- Distribution of “Bike Safe” flyers and materials in Environmental fairs.



Indoor bicycle storage area at the Genzyme Center, a Platinum LEED Building (2005, New Construction)

Commuting Green

- Genzyme subsidizes 60% of MBTA monthly passes.
- Preferred parking for carpools and low-emission vehicles (LEED Buildings)
- Free EZ Ride passes for employees
- Hourly shuttle between Genzyme Center, Allston and Framingham Campus



Locker room at Genzyme Center

Rush Hour Race

- Co-sponsored Driver/Cyclist/MBTA rider race during bike week to promote awareness of bike commuting
- Over 100 attendees at the finish line celebration at Genzyme Center
- Addresses by
 - City of Cambridge Mayor Davis
 - Executive Director of Livable Streets, Jackie Douglas
 - David Meeker, CEO of Genzyme and avid cyclist commuter

LIVABLESTREETS ALLIANCE
SOMERVILLE BICYCLE COMMITTEE
AND CAMBRIDGE BICYCLE COMMITTEE
PRESENT

RUSH HOUR RACE

MONDAY
MAY 14
rain date May 15th



DRIVER VS. CYCLIST VS. 'T' RIDER
DAVIS SQUARE TO KENDALL SQUARE

What's the fastest way to get from Davis Square to Kendall Square? Join three local celebrities as they 'race to work' using three different modes of transportation. Stop by the start, come along for the ride, or stop by the finish. Light refreshments and good times provided at both ends.

START:
REDBONES®
7:45am
55 Chester Street
Davis Square, Somerville

SEND OFF:
8:30am

Sponsored by **genzyme**
A SANOFI COMPANY

FINISH:
genzyme
8:45 - 10:00am
500 Kendall Street
Kendall Square, Cambridge

For more info: <http://livablestreets.info> events@livablestreet.info 617-621-1746

Fitness and Commuting Green

- Four week program sponsored by Genzyme Wellness
- Promotes eating and exercise habits which are beneficial to the health of the employee and the planet!
- Includes weekly tips, activities, exercises, green habits and recipes.
- Weekly scorecard is kept by employee, for every 10 points participant is entered in a raffle to win a prize.



Thank you!



What questions do you have?