Sustainability, Transportation and Carsharing

Bill Barker, AICP

Alamo Group of the Sierra Club
San Antonio, Texas
March 19, 2013
Do onto future generations as you would have them do onto you!
Human ecological footprint overshoots earth’s capacity

Source: Footprint network
http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/demands_on_our_planet/
Here’s the temperature of an Earth with human + natural influences

Katharine Hayhoe, *Climate Change in Texas: What does the future hold?*, Climate Science Center, Texas Tech University and ATMOS Research, January 2013
Increasing demand for water

Projected Changes in Water Withdrawals (2005 to 2060)

Without Climate Change

With Continued Climate Change

Katharine Hayhoe, *Climate Change in Texas: What does the future hold?*, Climate Science Center, Texas Tech University and ATMOS Research, January 2013
Big changes – in extreme heat

Katharine Hayhoe, *Climate Change in Texas: What does the future hold?*, Climate Science Center, Texas Tech University and ATMOS Research, January 2013
Global Sources of Carbon Emissions

- Manufacturing & Construction: 18.2%
- Electricity Generation & Heating: 43.9%
- Road Transport (Cars, Trucks & Buses): 15.9%
- Fuel Combustion for other uses: 12.2%
- Non-road transport: 5.8%
- Other non-transport: 4%

Source: http://oica.net/category/climate-change-and-co2/
Medina Lake
Bastrop

Bastrop, Texas

BREAKING NEWS
WILDFIRES BURN ACROSS TEXAS
2 dead, hundreds of homes destroyed
Heat buckles roads

Video
U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid for March 7 - May 31, 2013
Released March 7, 2013

**KEY:**
- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events — such as individual storms — cannot be accurately forecast more than a few days in advance. Use caution for applications — such as crops — that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 Intensity).

For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green Improvement areas imply at least a 1-category Improvement in the Drought Monitor Intensity levels, but do not necessarily imply drought elimination.
Overview

Sustainability

Transportation

Carsharing
Transportation and Sustainability

- There is no such thing as “sustainable transportation” only “sustainable communities”.
- Transportation can play an important role in supporting a community’s sustainability goals.
- “Transportation sustainability extends beyond the organizational boundaries of national, state, and local transportation agencies, and it cuts across the various divisions and departments that are part of a transportation agency.”

SA2020 Transportation Vision

• **Vision**
  “In 2020, San Antonio’s transportation system is recognized as a model of efficiency and environmental sustainability. San Antonio is served by an environmentally friendly transportation system where everyone is able to walk, ride, drive or wheel in a safe, convenient, and affordable manner to their desired destinations. Frequent and reliable mass transit services connect communities, and transportation infrastructure meets community needs.”

• **Targets**
  • Triple transit ridership
  • Decrease travel time index to 1.1
  • Increase the number of pedestrian-oriented neighborhoods

• **Measures**
  • 100% compliance with EPA standards
  • Decrease number of accidents by 50%
  • Triple number of miles of complete streets
  • Reduce vehicle miles travelled per person by 10%
  • Increase % workers with commute times less than 25 minutes to 70%
  • Increase walkability score 20%
Benefits from Reducing Transportation Fuel Use

Urban VMT Factors
Based on a 10% Increase in the Factor of Interest in 144 U.S. Urbanized Areas

Relative Impact on Urban VMT

Land use considerations are at least as important as transportation systems in impacting VMT in urban areas.

Buildings, development patterns, location and transportation

<table>
<thead>
<tr>
<th></th>
<th>Suburban</th>
<th>Urban</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>8 DU/acre</td>
<td>40 DU/acre</td>
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<tr>
<td></td>
<td>0.25 FAR</td>
<td>2.5 FAR</td>
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</table>

<table>
<thead>
<tr>
<th>CO₂ Lbs/Yr/Household</th>
<th>Buildings</th>
<th>Transportation</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>24,000</td>
<td>26,000</td>
<td>50,000</td>
</tr>
<tr>
<td></td>
<td>11,000</td>
<td>9,000</td>
<td>20,000</td>
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</tbody>
</table>

Overview

Sustainability

Transportation

Carsharing
A new form of transportation in San Antonio

Video
Carsharing changes travel behavior

- Car miles -72%
- Transit use +26%
- Bicycle and walking +41%

Source: P. Munheim, Carsharing – the key to combined mobility, prepared for the Swiss Federal Office of Energy, 1998
## Impacts of Carsharing Membership on Vehicle Miles Traveled

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>% Change in Average VMT (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin and Shaheen (2011)</td>
<td>North America</td>
<td>-27%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cervero (2007)</td>
<td>San Francisco</td>
<td>-33%</td>
</tr>
<tr>
<td>Millard-Ball (2005)</td>
<td>North America</td>
<td>-37%</td>
</tr>
</tbody>
</table>

*Source: Data from Martin, Elliot and Shaheen, 2011, Cervero, Golub and Nee 2007, 35-36; Price, DeMaio and Hamilton 2006, 9; Millard-Ball, et al. 2005, 4-22; Cervero and Tsai 2004, 123.*

<sup>a</sup> Martin and Shaheen estimate the “observed impact” to be 27% and the “full impact” to be 43%.

Carsharing in San Antonio

- Hertz On Demand
- Launched 3/29/12
- 21 cars in 12 locations
- 1,535 members
- Free membership
- Minimum one hour rental
- 24/7 availability (keys already in cars)
- $10-12 per hour rate is all inclusive (fuel, insurance, etc.)
- Rates higher on weekends
THE TECHNOLOGY

- **BLUETOOTH CONNECTIVITY**: Hands free calls
- **REMOTE LOCK/UNLOCK**: Forgot your card? We can open the doors for you
- **NAVIGATION SYSTEM**: GPS in all vehicles
- **IMMOBILIZER**: Anti-theft system; Vehicles fully secured

- **In-Car Concierge Service**: One number to handle all needs, 24/7/365
- **iPod/iPhone CONNECTIVITY**: Your trip, your music
- **SMART CONTROL SCREEN PAD**: Used for extensions, Driver’s License verification

*Best-in-Class Proprietary technology, owned and developed by Hertz*
Google “Hertz On Demand”

Where we are located

It's easy to locate hourly car rental near you in the San Antonio area. Enter an address or zip code of the neighborhood you wish to search and click go to receive up to the minute availability of vehicles in your area. Skip the taxi in San Antonio and rent a car with Hertz On Demand – Car Sharing.

Not a member yet? Join today - membership is free! Yep free... try finding that in San Antonio!
Pick a location, car and time
"Last year, about 800,000 people belonged to car-sharing services in the United States, a 44 percent increase from 2011...." (NY Times)

Carsharing save money: If you drive less than 2.5 hours a day, a car share could save you money.

The millennial generation is less interested in car ownership: “The share of new cars purchased by those aged 18-34 dropped 30% in the last five years, according to the car shopping web site Edmunds.com.” (CNN Money)

Automakers are taking note: Ford Motor Company released a report on the rapidly changing auto trends. “Car-sharing services..., carpooling by Gen Yers, bike sharing and ‘multi-mix forms of mobility’ are all explored as signs of how consumers are changing their car habits,” (Adweek)

Gas prices keep rising: Aside from disposable income being less than any time in decades, gas prices keep rising, making car ownership costs also rise.

http://blog.walkscore.com/2013/02/walk-score-ranking-top-10-car-share-cities/
“I would like to ask all those who have positions of responsibility in economic, political and social life, and all men and women of goodwill: Let us be protectors of creation, protectors of God’s plan inscribed in nature, protectors of one another and of the environment.”

Pope Francis, March 19, 2013
Disclaimer: The views presented are solely those of the author and are not necessarily those of the City of San Antonio.

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Forward on Climate Rally, The National Mall in Washington, D.C., February 17, 2013