



TOD Research and Findings

March 10, 2008

Fregonese Associates

National Institute of Health Study

- Adults in homes built before 1946 and from 1946-1973 were significantly more likely to walk 1+ miles > 20 times/month than those in homes built after 1973

National Health Institute Study

- Support the hypothesis that environment variables influence walking frequency
- Home age is useful proxy for influencing physical activity in the form of walking

University of British Columbia Study

- Individuals in the highest walkability quartile were 2.4 times more likely than those in the lowest walkability quartile to spend 30 minutes or more doing moderate physical activity/day

University of British Columbia Study

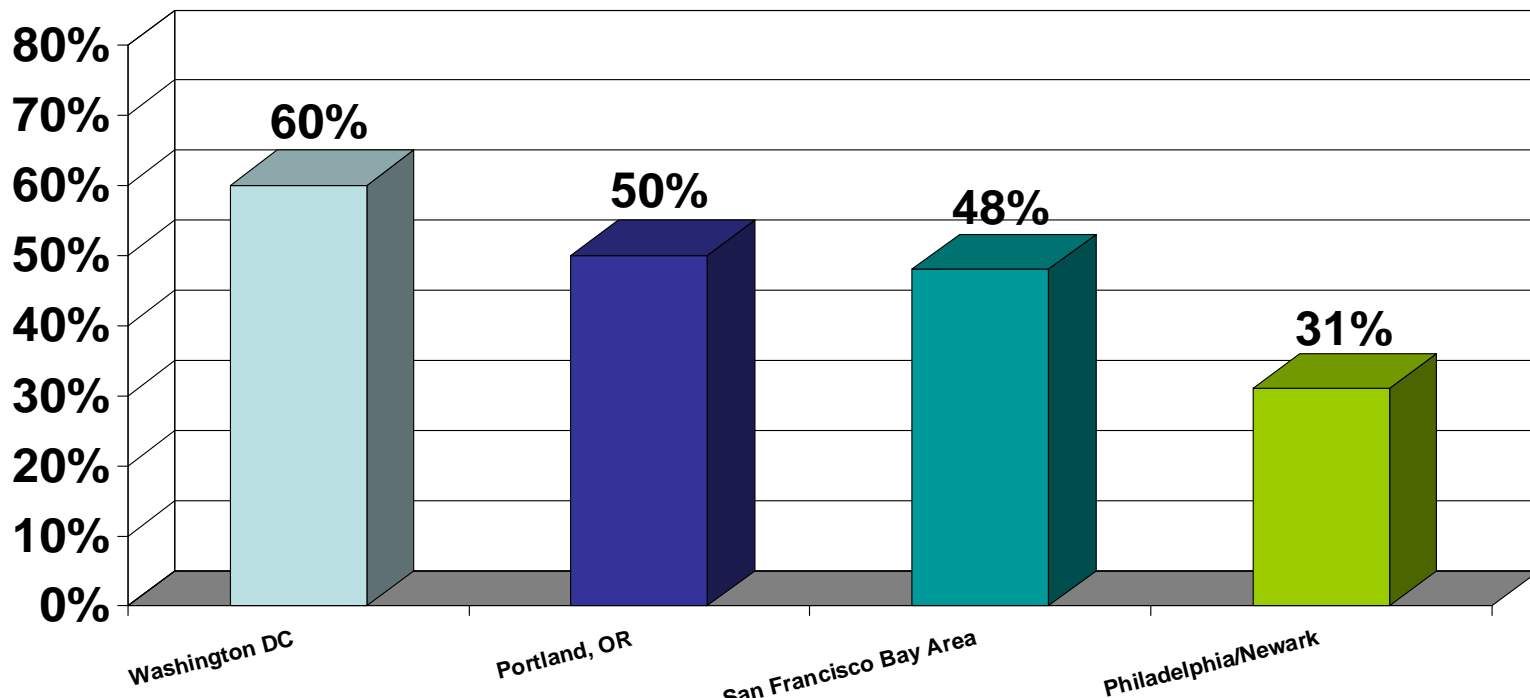
- A more walkable community design: diversity of land use mix, street connectivity, and residential density significantly influences increased levels of physical activity

Transit Cooperative Research Program Study

- Compared auto use of residential TODs and conventional development
- Looked at 17 built TOD projects:
 - Philadelphia/NE New Jersey
 - Portland, Oregon
 - Metropolitan Washington D.C.
 - East Bay of the San Francisco Bay Area
- Projects ranged in size from 90 to 854 units
- Primary use was residential
- 6 of the 17 sites had incidental retail uses on first floor

Transit Cooperative Research Program Study

% Fewer Auto Trips at TOD locations



Study by Dr. Robert Cervero, PB PlaceMaking, The Urban Land Institute and the Center for Transit Oriented Development, 2007.

Transit Cooperative Research Program Study

- **TOD's produce 50% fewer auto trips**
- Institute of Transportation Engineers (ITE) trip generation and parking generation rates over estimate automobile trips for TOD housing
 - Over typical weekday period, the 17 surveyed TOD-housing projects averaged 44% fewer vehicle trips than estimated by the ITE manual, even larger during peak periods



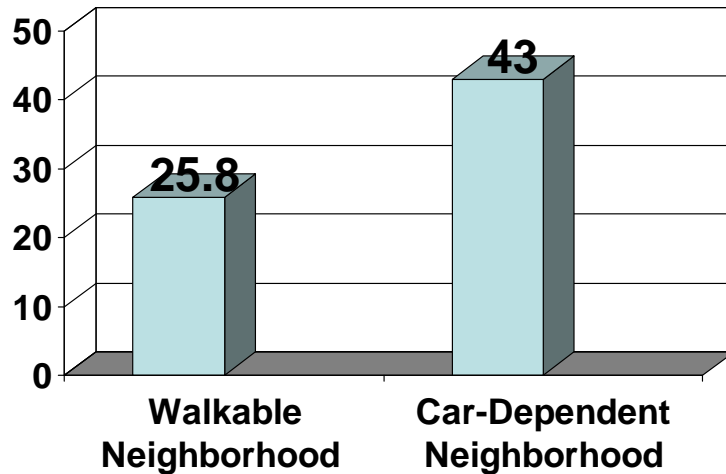
Study of San Diego, CA

Comparing a walkable and a non-walkable neighborhood in San Diego, CA:

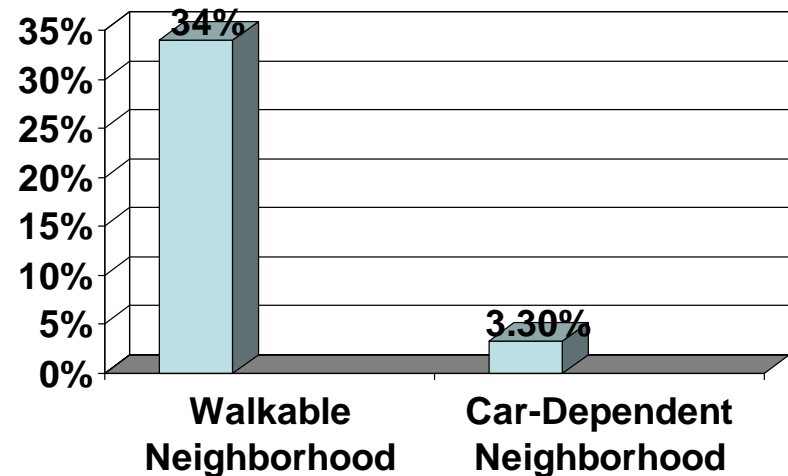
- Residents in the walkable neighborhood had more than **70 more minutes** of physical activity per week and had **lower obesity prevalence** (34% vs. 60%) than did residents of the car-oriented neighborhood.

Study of Atlanta, GA

Vehicle Miles Traveled per day



Percent who Walk



2056 Participants

11.7% obesity rate in people who prefer and live in walkable environments compared with 21.6% of participants who prefer car dependent environments

Study of Atlanta, GA

- Researchers analyzed 2001-2002 data from 3,161 children and teens and found that young people ages 5 to 18 were more likely to walk if they lived in a mixed use neighborhood, with parks, schools and commercial destinations within one kilometer of where they live.

Study of Portland, OR

- Positive relation between walking activity and built environment factors (employment density, household density, green spaces for recreation, number of street intersections).
- Perceptions of safety while walking and number of nearby recreational facilities were positively related to high levels of walking activity.
- A significant interaction was observed between number of street intersections and perceptions of safety from traffic.

Walking/Cycling Study

Communities with higher density, greater connectivity, and more land use mix report **higher rates of walking/cycling for utilitarian purposes** than low-density, poorly connected, and single land use neighborhoods.



B.E. Saelens, J.F. Sallis, L.D. Frank. "Environmental correlates of walking and cycling: findings from the transportation, urban design, and planning literatures." *Ann Behav Med.* 2003 Spring;25(2):80-91.

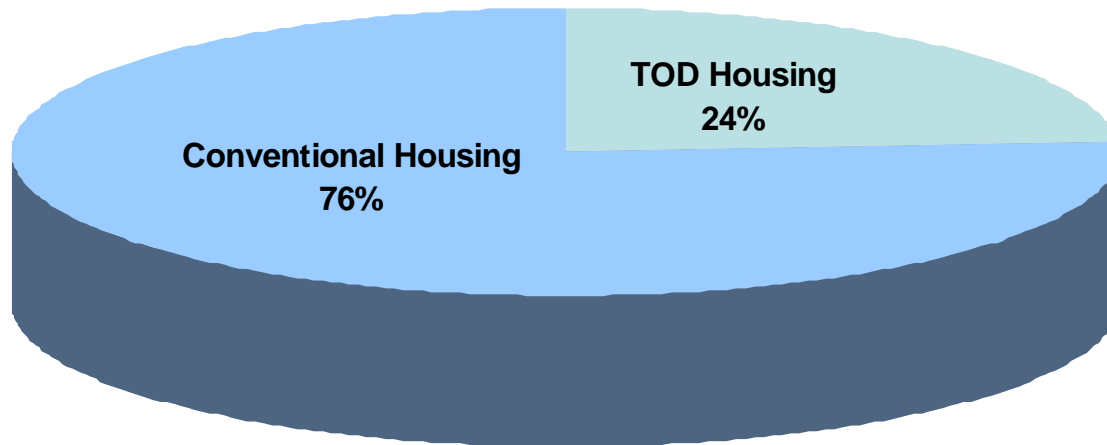
The Center for Transit-Oriented Development Research

- For every dollar saved on housing in a lower-cost suburban location, households spent an additional 77 cents on transportation—nearly wiping out any savings
- The average household spends 19% of income on transportation
- **Households with good access to transit spend only 9% of income**

The Center for Transit-Oriented Development Research

- 15.2 million households likely to rent or buy housing near transit by 2030
- TOD housing will comprise 24% of total 2030 housing demand

2030 Housing Demand



Other Research

- Public transportation **ridership** has **increased** by **22%** in last 6 years (American Public Transportation Association)
- Taxpayer support: **42 out of 53 public transportation ballot initiatives passed** in 2004 (Center for Transportation Excellence)

Climate Change Imperative

- **200 million American drivers**
- **10,000,000,000,000 (10 trillion!) annual vehicle miles**
- CO2 comprises 84% of all greenhouse gases
 - Of that 75% from stationary sources i.e. industry and decreasing over time
 - Remaining 25% from mobile sources and **increasing** over time

