Coalition for Smarter Growth

DC • MD • VA

About CSG

- 23 years old, six staff, working in nine major DC area jurisdictions
- Founded by PEC, CBF, ANS, CWA, other leading conservation groups
- We address the interconnected issues of land use, transportation, and the environment
- Blueprint for a Better Region – vision for network of walkable, mixed-use, mixed-income, transit-oriented communities, has helped to change the debate about growth in the DC region
- COG Region Forward vision plan adopts our vision; COG goal now to locate 75% of new jobs and housing in transit-accessible activity centers
- ”TOD is our future” say local elected officials

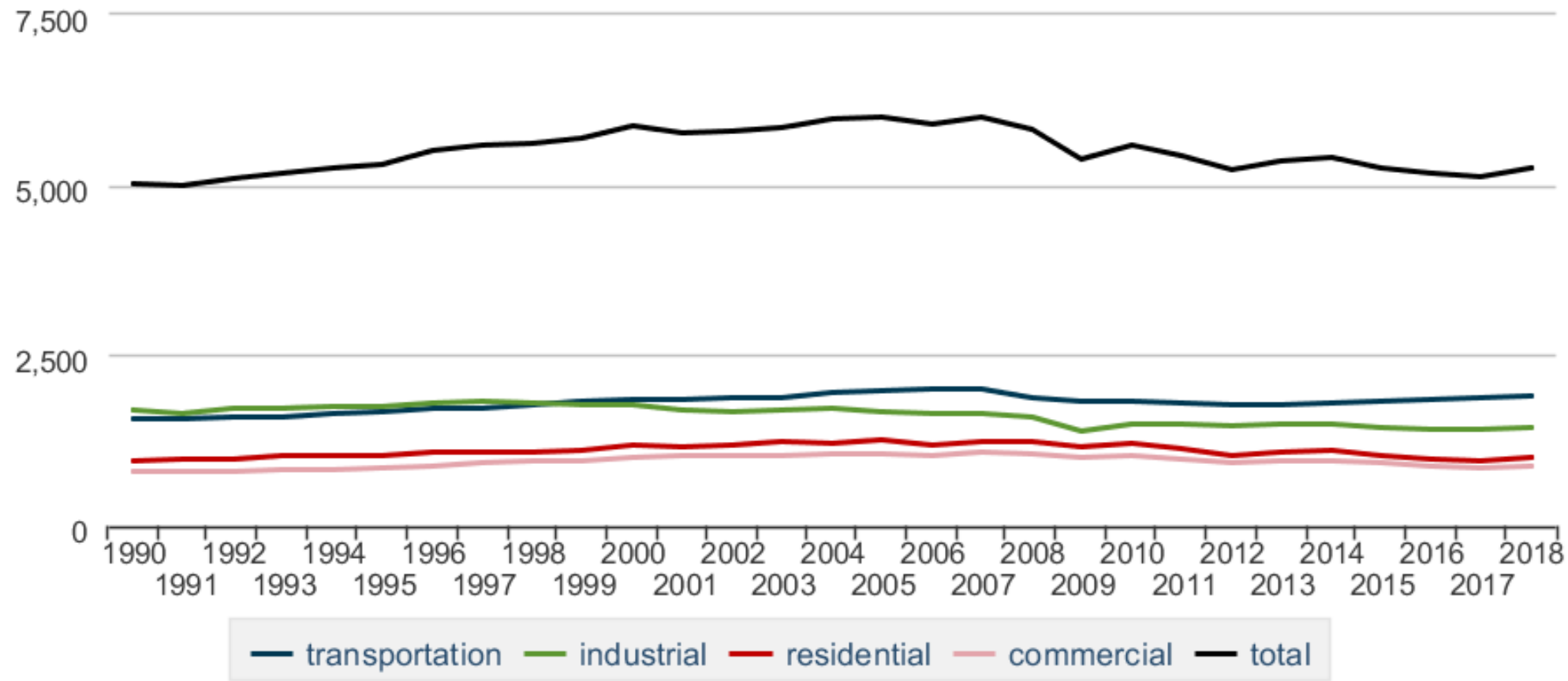
The transportation sector is the largest contributor of carbon pollution in the US.

In addition to electric vehicles, we must reduce vehicle miles traveled and to do so, we need better land use linked to transit, walking and bicycling.

If we do 100% electrification of vehicles but don’t stop sprawl and reduce travel, the major increase in electricity demand will overwhelm our renewable energy capacity or potentially risk significant conversion of farms and forests.

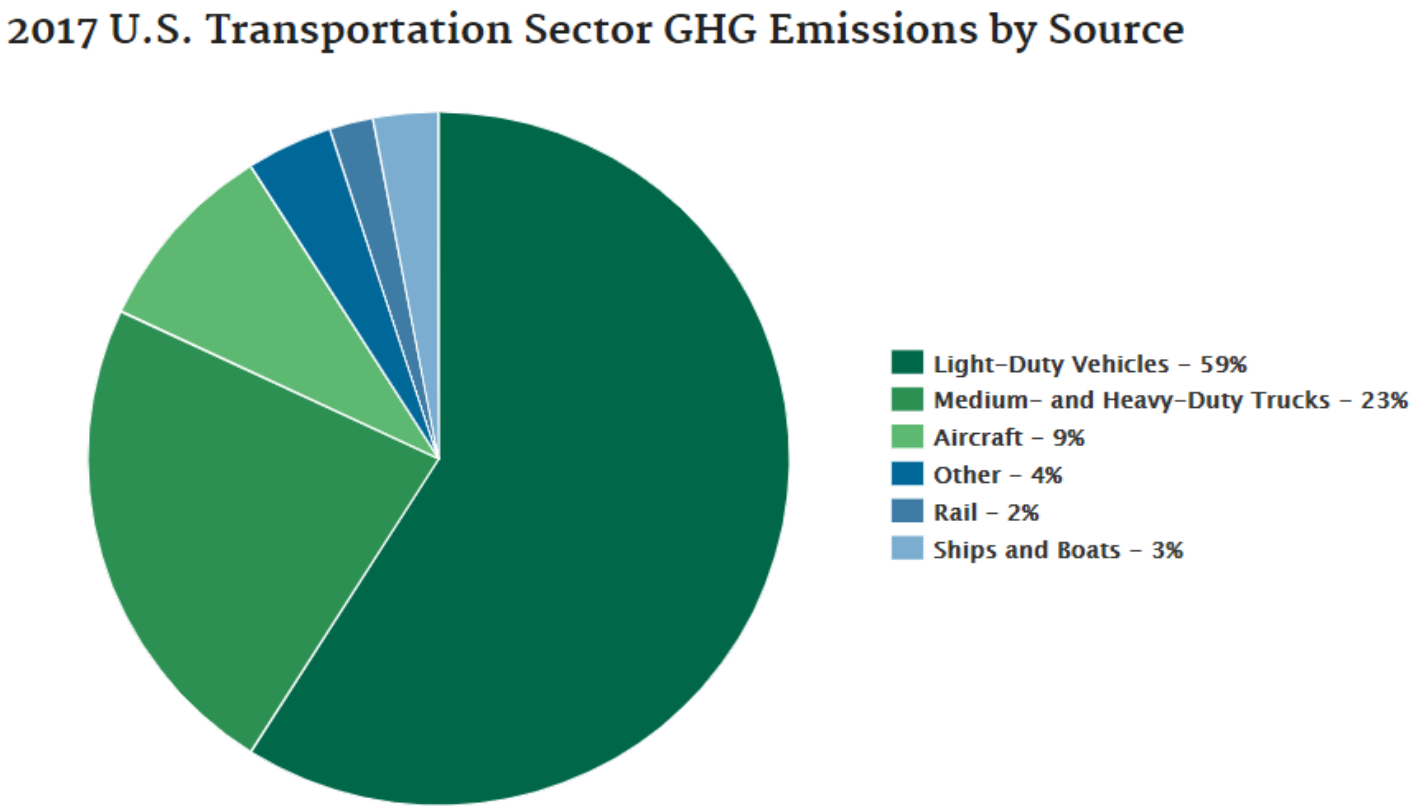
Sprawling development in turn has a higher carbon footprint per capita in buildings, higher fiscal costs, and many other environmental and social equity costs.

Figure 4. Energy-related CO2 by end-use sectors, 1990–2018



Source: U.S. Energy Information Administration, *Monthly Energy Review*, October 2019, Table 11.2 Carbon Dioxic
Table 11.3 Carbon Dioxide Emissions from Energy Consumption: Commercial Sector; Table 11.4 Carbon Dioxide E
Table 11.5 Carbon Dioxide Emissions from Energy Consumption: Transportation Sector.

Within the US transportation sector, privately owned vehicles and medium- and heavy-duty trucks contribute to 82% of greenhouse gas emissions.



Note: Totals may not add to 100% due to rounding. Transportation emissions do not include emissions from non-transportation mobile sources such as agriculture and construction equipment. "Other" sources include buses, motorcycles, pipelines and lubricants.

Data from EPA, Fast Facts on Transportation Greenhouse Gas Emissions:
https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions

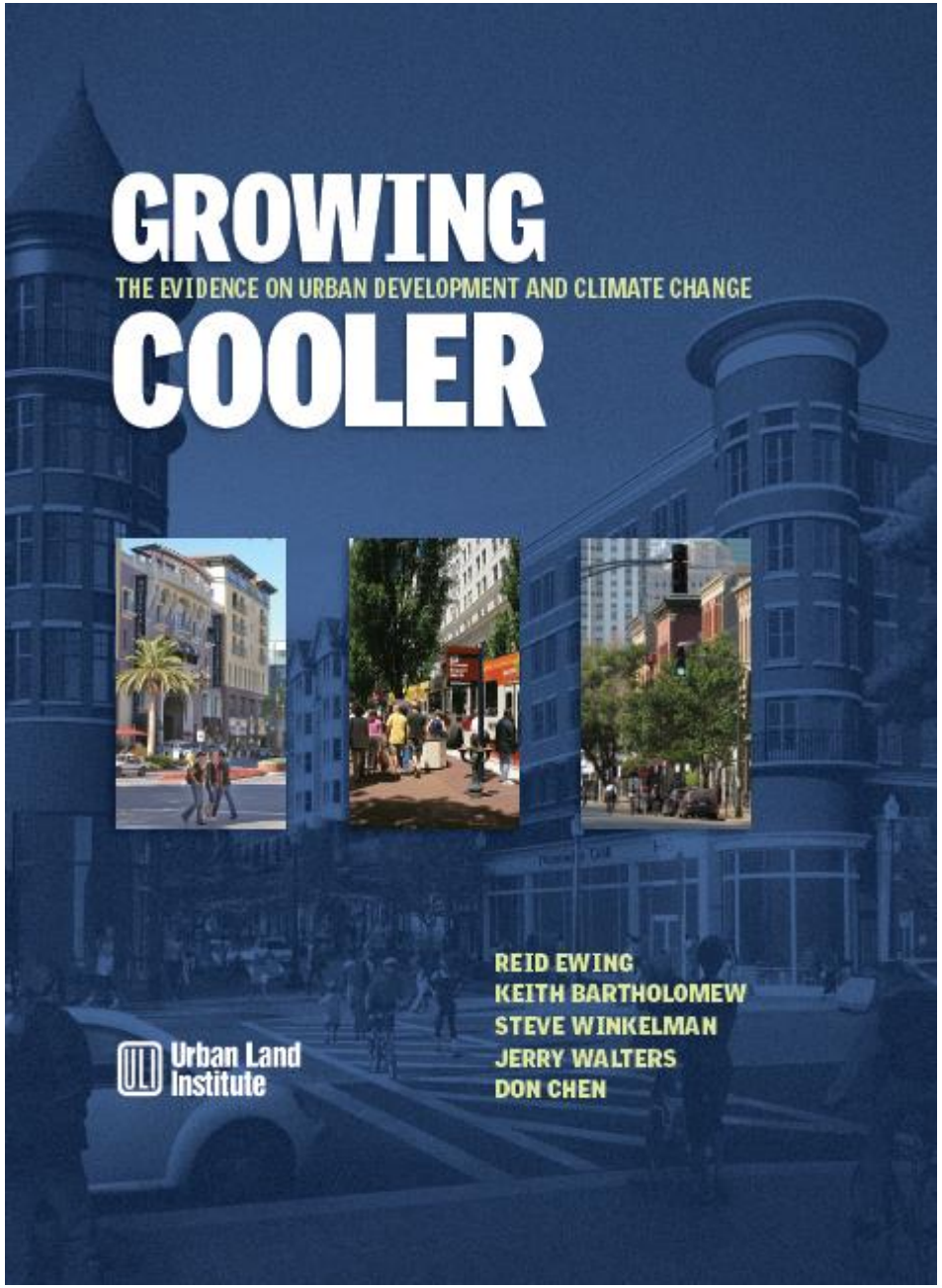


Image credit: ULI Bookstore https://uli.bookstore.ipgbook.com/growing-cooler-products-9780874201789.php

Growing Cooler 2008: 3 Legs of a stool for addressing transportation GHG emissions

1. Vehicle Efficiency (mpg)
2. Fuel Greenhouse Gas content (Fuel GHG)
3. Vehicle Miles Traveled (VMT)

A primary tool for reducing VMT is building transit-oriented communities where proximity to daily needs and access to walking, bicycling, and public transit are maximized.

Figure 3-5 Simple Correlation between Daily VMT per Capita and Metropolitan Sprawl Index*
Source: Ewing, Pendall, and Chen 2002.

*Larger index values = less sprawl.

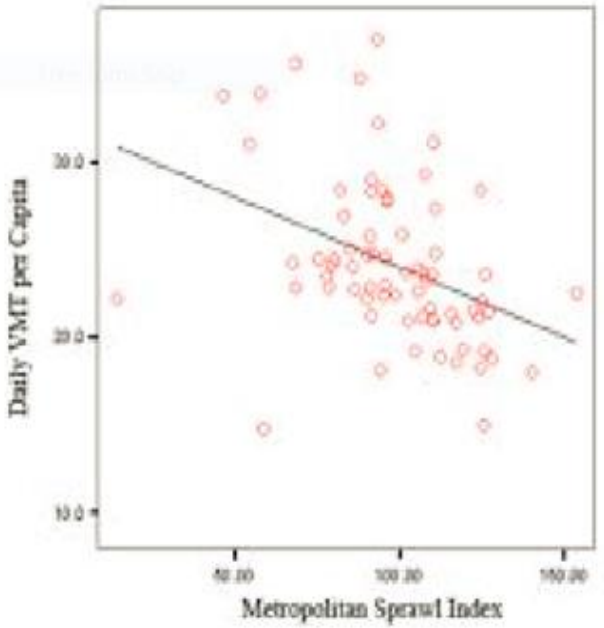
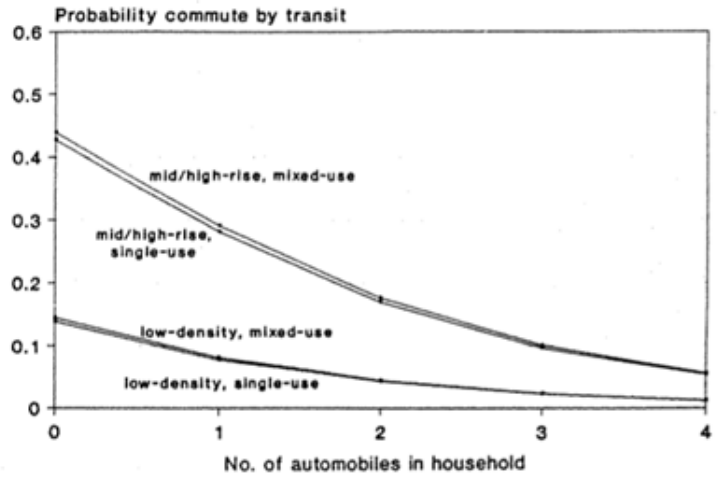


Figure 3-11 Effects of Density and Mixed Use on Choice of Transit for Commutes*
Source: Cervero 1996.



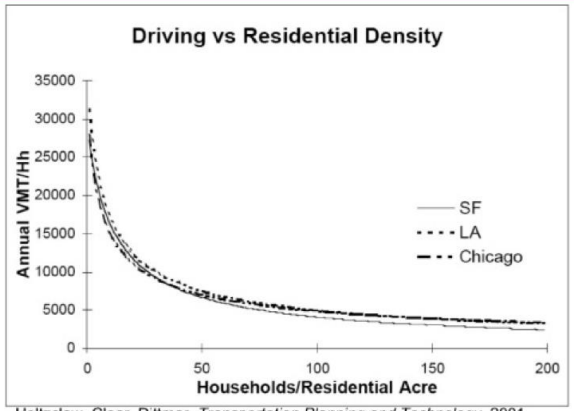
*Data for more than 45,000 U.S. households showed transit use primarily dependent on density of development. At higher densities, the addition of retail uses in neighborhoods was associated with several percentage point higher levels of transit commuting across 11 U.S. metropolitan areas.

Figure 3-5: The more compact an area is, the lower the VMT per capita is as well.

Figure 3-11: Density directly correlates to VMT reductions. Living in a mid/high-rise, mixed-use neighborhood increases the probability that a household will commute by transit and own fewer cars.

Figure VMT & Residential Density: More density = greater annual VMT reductions per household.

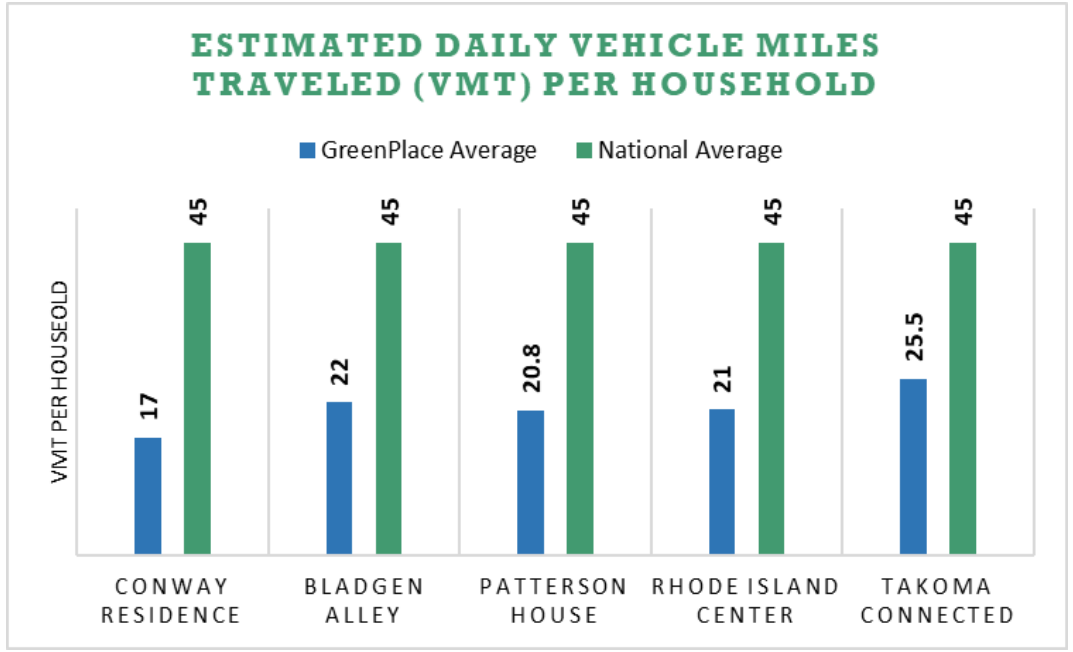
VMT & Residential Density

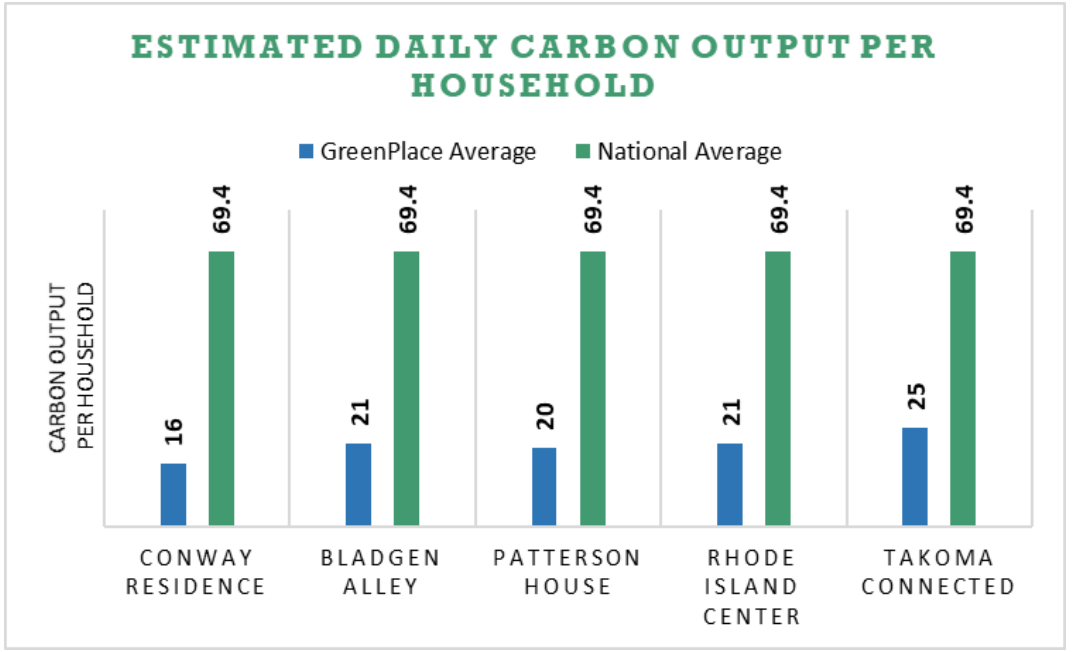


Holtzclaw, Clear, Dittmar, *Transportation Planning and Technology*, 2001.
(www.reconnectingamerica.org

Figures 3-5 & 3-11 from Growing Cooler (2008): by Keith Bartholomew, Reid Ewing, Steve Winkelman, Jerry Walters, and Don Chen
VMT & Residential Density by: Holtzclaw, Clear, and Dittmar (2001).

CSG – "GreenPlace" (2016) – Benefits of 5 DC development projects





Transit-oriented communities: Averaged 17 to 25.5 vehicle miles traveled (VMT) per household and 16-25 lbs of daily carbon output per household

Regional averages: 45 VMT and 69.4 lbs daily carbon output

Data from Coalition for Smarter Growth, GreenPlace (2016): https://www.smartergrowth.net/wp-content/uploads/2016/09/GreenPlace-report-PUBLIC.pdf

Project	Comparison Site (stimulated relocation of project)	% Change in CO2 emissions project vs. comparison site
New Carrollton Transit District (MD)*	Konterra Town Center (MD)	-11.2%
White Flint Sector Plan (MD)*	Gaithersburg West area (MD)	-12.3%
Gaithersburg West Life Sciences Center (MD)	White Flint (MD)*	+9.7%
One Loudoun Center (VA)	Route 772 Metrorail Station (VA)*	+13.8%
MetroWest, Vienna-Fairfax-GMU Metro (VA)*	Arcola Center (VA)	-13.5%
Braddock Metro Neighborhood Plan (VA)*	Lorton (VA)	-27.1%
King Farm (MD)*	Relocation of residential uses to Derwood in suburban form (MD)	-41.8%
EYA Arts District Hyattsville (MD)*	Konterra Town Center (MD)	-7.9%
The Tower Building (MD)	Rockville Town Center (MD)*	+16.1%
Nature Conservancy Building (VA)*	Office park in Reston (VA)	-12.6%
5220 Wisconsin Avenue (DC)*	Gaithersburg West area (MD)	-20.3%

Note:
* = Indicates a site that has high walkability, mix of uses, and frequent transit services.

CSG "Cool Communities" Report (2010)

A site with high walkability, mix of uses, and frequent transit service will have reduced CO2 emissions (negative value) compared with a less accessible site. For example, the New Carrollton plan reduces CO2 emissions by 11.2% when compared against relocating the plan build-out to Konterra.

Data from Coalition for Smarter Growth, Cool Communities (2010): https://www.smartergrowth.net/wp-content/uploads/2012/11/Cool_Communities_Full_Report.pdf

Proximity to transit matters….

Figure 42
Commute Mode by Distance from Home to Bus Stop
(Less than 0.5 mi n = 2,608, 0.5-0.9 mi n = 596, 1.0-2.9 mi n = 1,273, 3.0-4.9 mi n = 373, 5.0-9.9 mi n = 507, 10.0 mi or more n = 380)

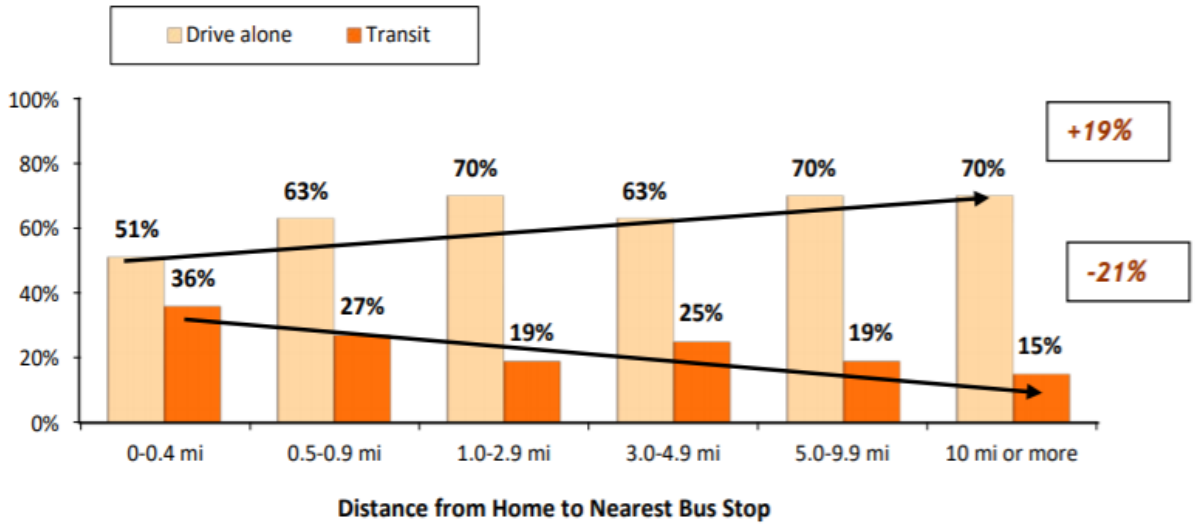
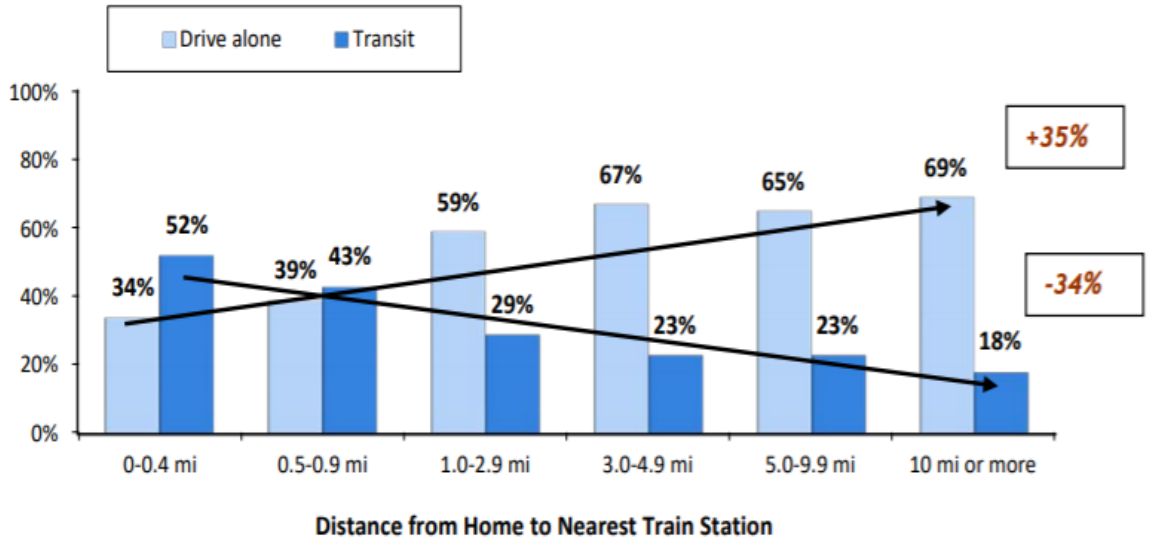


Figure 43
Commute Mode by Distance from Home to Train Station
(Less than 0.5 mi n = 597, 0.5-0.9 mi n = 618, 1.0-2.9 mi n = 1,530, 3.0-4.9 mi n = 712, 5.0-9.9 mi n = 907, 10.0 mi or more n = 1,497)



36% of people who live 0-0.4 miles of transit use the bus and 52% use the train.

Indicates need for more transit & to link transit with walkable development.

…and use declines with distance.

Data from National Capital Region Transportation Planning Board, 2019 State of the Commute Survey (2019):
https://www.mwcog.org/newsroom/2019/09/24/three-big-takeaways-from-the-2019-state-of-the-commute-survey/

Arlington County

- Two Metro Corridors, with eight stations for development
- 1970's "Bullseye" Plan, a National model for transit-oriented development
- TOD focused on 11.7% of land area, provides 50% of property tax base
- The 2.5 square miles of TOD in Rosslyn-Ballston corridor would consume 14 square miles in suburbs

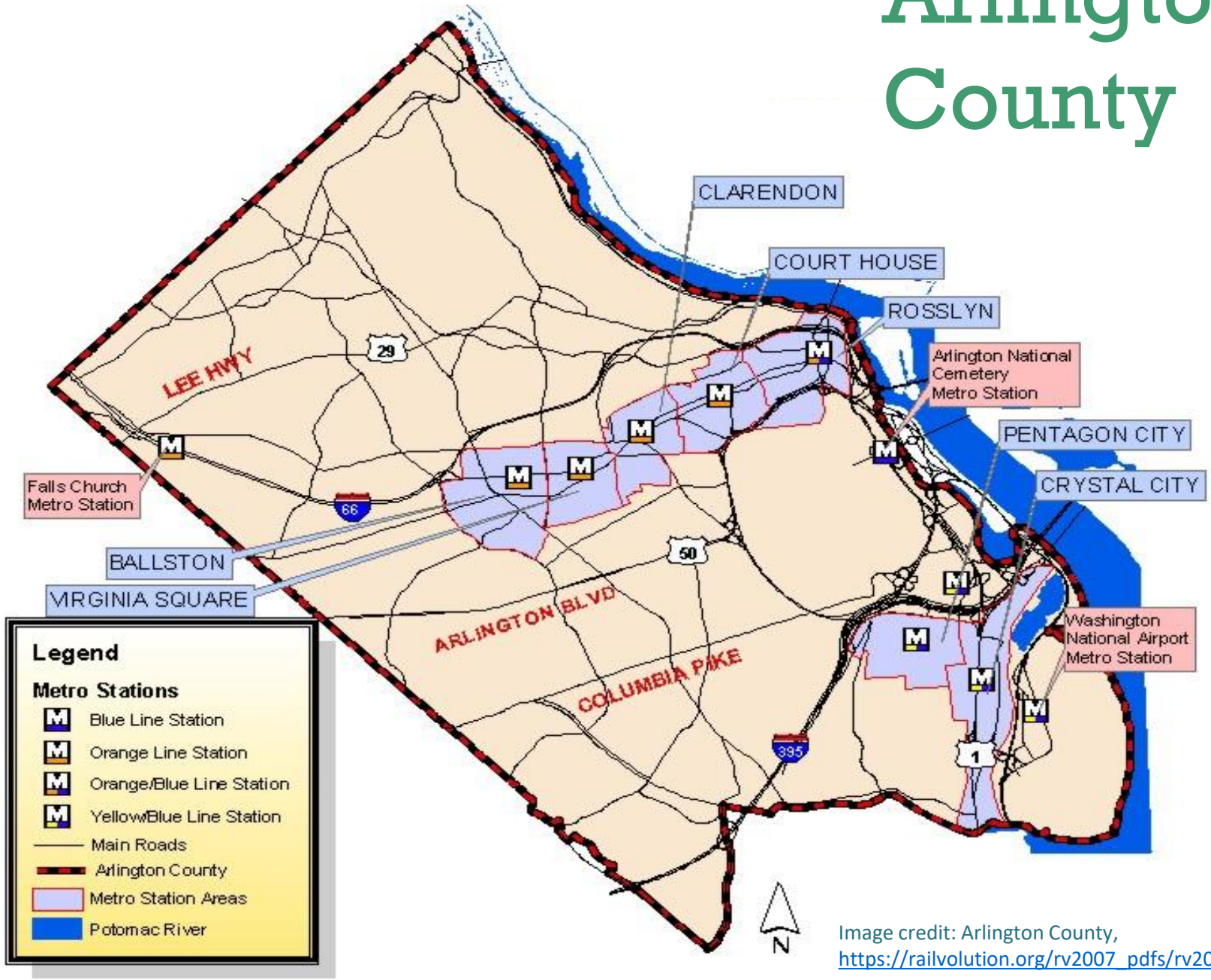


Image credit: Arlington County, https://railvolution.org/rv2007_pdfs/rv2007_310b.pdf

Rosslyn 1970's

Image credit: Arlington County

Coalition for Smarter Growth
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Rosslyn and Courthouse in 2000s

Image credit: Arlington County

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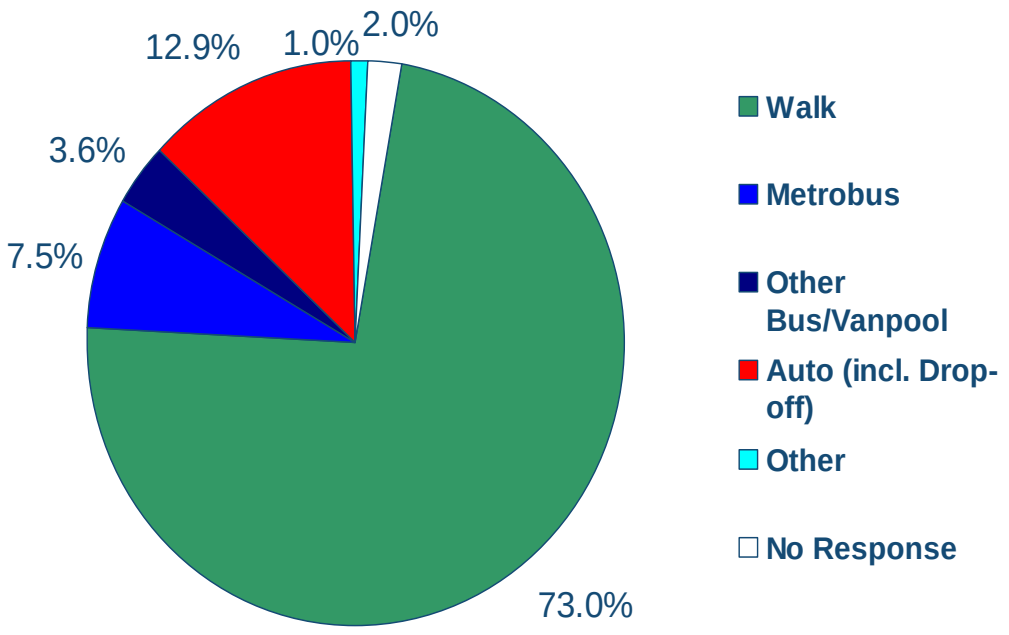
Arlington has created an environment rich in travel choices.

Images credit: Arlington County, https://railvolution.org/rv2007_pdfs/rv2007_310b.pdf

Walk/Bike vs. Drive to Metro
R-B Corridor vs. East Falls Church to Vienna

5 R-B Corridor Stations with TOD –
45,733 Weekday Boardings



4 Suburban Stations w/o TOD –
34,451 Weekday Boardings

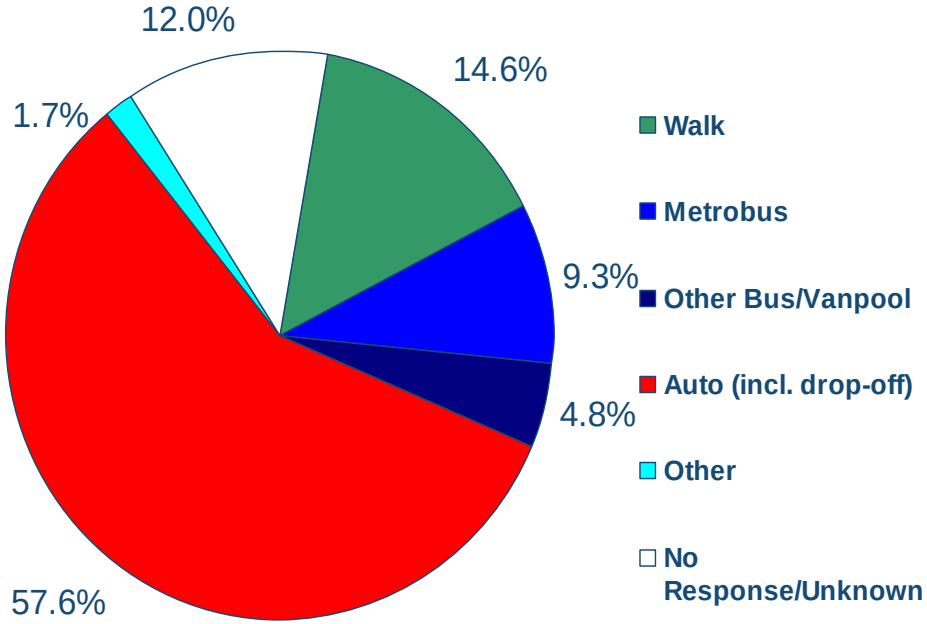


Image credit: Arlington County, https://railvolution.org/rv2007_pdfs/rv2007_310b.pdf

In the National Capital Region, driving alone was much more common among outer ring residents (75%), and middle ring residents (64%), than among inner core residents (37%).

Data from National Capital Region Transportation Planning Board, 2019 State of the Commute Survey (2019): https://www.mwcog.org/newsroom/2019/09/24/three-big-takeaways-from-the-2019-state-of-the-commute-survey/

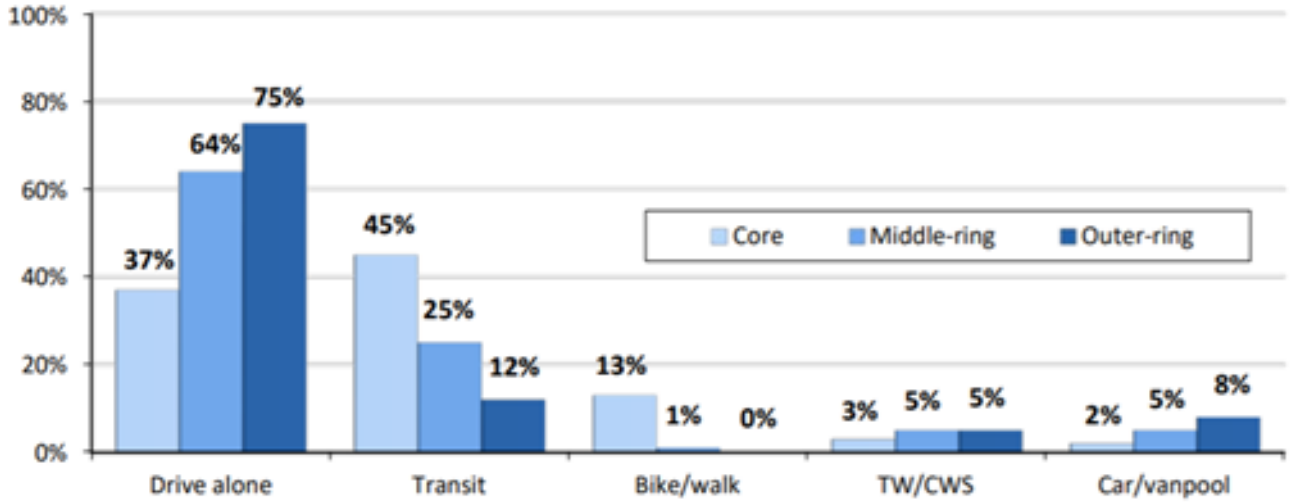
Table 6
Commute Mode (Primary Mode)
by Home and Work Locations – Arlington and Neighboring Jurisdictions

Mode by HOME Jurisdiction	Arlington (n = 504)	Alexandria (n = 473)	District of Columbia (n = 557)	Fairfax (n = 552)	Suburban Maryland* (n = 1,004)
Drive alone	44%	59%	34%	67%	65%
Bus or train	38%	18%	40%	15%	19%
Carpool or vanpool	3%	3%	4%	4%	4%
Bike or walk	6%	7%	15%	1%	2%
Telework / CWS	9%	13%	7%	13%	10%

Mode by WORK Jurisdiction	Arlington (n = 404)	Alexandria (n = 293)	District of Columbia (n = 1,711)	Fairfax (n = 871)	Suburban Maryland* (n = 961)
Drive alone	55%	72%	37%	76%	73%
Bus or train	23%	11%	43%	6%	12%
Carpool or vanpool	8%	3%	6%	3%	6%
Bike or walk	4%	4%	6%	1%	3%
Telework / CWS	9%	10%	8%	14%	6%

* Suburban Maryland counties includes Montgomery County and Prince George's County

Figure 9
Primary Mode by Home Area
(Inner Core n = 2,198, Middle Ring n = 2,421, Outer Ring n = 4,488)



In areas where transit is more accessible and there are communities of higher density, like Arlington and Washington DC, people are more likely to commute by bus, train, walk, bike

When comparing commute mode by home jurisdiction, Arlington residents are more likely to take the bus or train (38%) than their Fairfax County counterparts (15%).

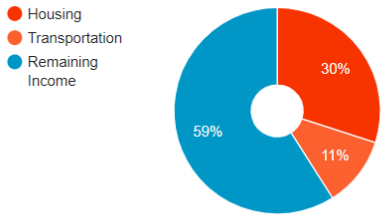
Data from Metropolitan Washington Council of Governments, State of the Commute Survey, Arlington County, VA (2018): https://mobilitylab.org/research-document/regional-state-of-commute-survey-2016-arlington-analysis/

CNT Housing + Transportation, Virginia Comparison

Arlington County, VA vs. Loudoun County, VA

Average Housing + Transportation Costs % Income

Factoring in both housing *and* transportation costs provides a more comprehensive way of thinking about the cost of housing and true affordability.



Transportation Costs

In dispersed areas, people need to own more vehicles and rely upon driving them farther distances which also drives up the cost of living.

$9,848
Annual Transportation Costs

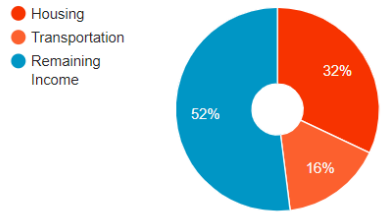
1.39
Autos Per Household

13,494
Average Household VMT

26%	33	5.05 Tonnes
Transit Ridership % of Workers	Annual Transit Trips	Annual Greenhouse Gas per Household

Average Housing + Transportation Costs % Income

Factoring in both housing *and* transportation costs provides a more comprehensive way of thinking about the cost of housing and true affordability.



Transportation Costs

In dispersed areas, people need to own more vehicles and rely upon driving them farther distances which also drives up the cost of living.

$14,764
Annual Transportation Costs

2.02
Autos Per Household

23,129
Average Household VMT

3%	10	10.26 Tonnes
Transit Ridership % of Workers	Annual Transit Trips	Annual Greenhouse Gas per Household

Arlington County = Spends less on housing (30% of income) AND transportation (11%); spends less on annual transportation costs ($9,848); produces less average household VMT: (13,494)

Loudoun County = Spends more on housing (32%) AND transportation (16%); spends more on annual transportation Costs ($14,764); produces more average household VMT (23,129)

Data from Center for Neighborhood Technology, The Housing and Transportation (H+T®) Affordability Index: https://htaindex.cnt.org/

A Virginia Comparison Continued…

County: Arlington, VA

H+T Costs % Income: 40% Fact Sheet

Housing: 30% Transportation: 11%

Annual GHG per Household

Annual GHG per Household ?

Average : 5.05 Tonnes Range: 2.88 - 9.12

Population | Household | Neighborhood

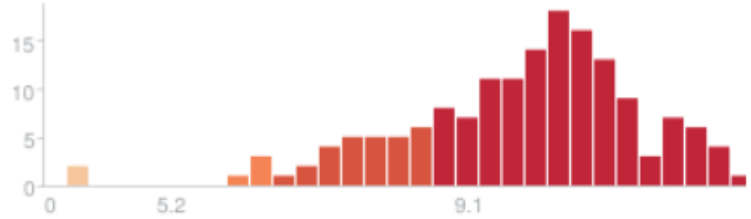
	Households	% of Households
< 3.3 Tonnes	6,309	6.6%
3.3 - 5.1 Tonnes	46,875	48.7%
5.1 - 6.5 Tonnes	20,706	21.5%
6.5 - 8.6 Tonnes	19,835	20.6%
8.6 + Tonnes	2,462	2.6%
Total	96,187	100%

County: Loudoun, VA

H+T Costs % Income: 48% Fact Sheet

Housing: 32% Transportation: 16%

Annual GHG per Household



Annual GHG per Household ?

Average : 10.26 Tonnes Range: 4.31 - 13.05

Population | Household | Neighborhood

	Households	% of Households
< 3.3 Tonnes	0	0%
3.3 - 5.1 Tonnes	1,441	1.3%
5.1 - 6.5 Tonnes	0	0%
6.5 - 8.6 Tonnes	15,141	13.3%
8.6 + Tonnes	96,850	85.4%
Total	113,432	100%

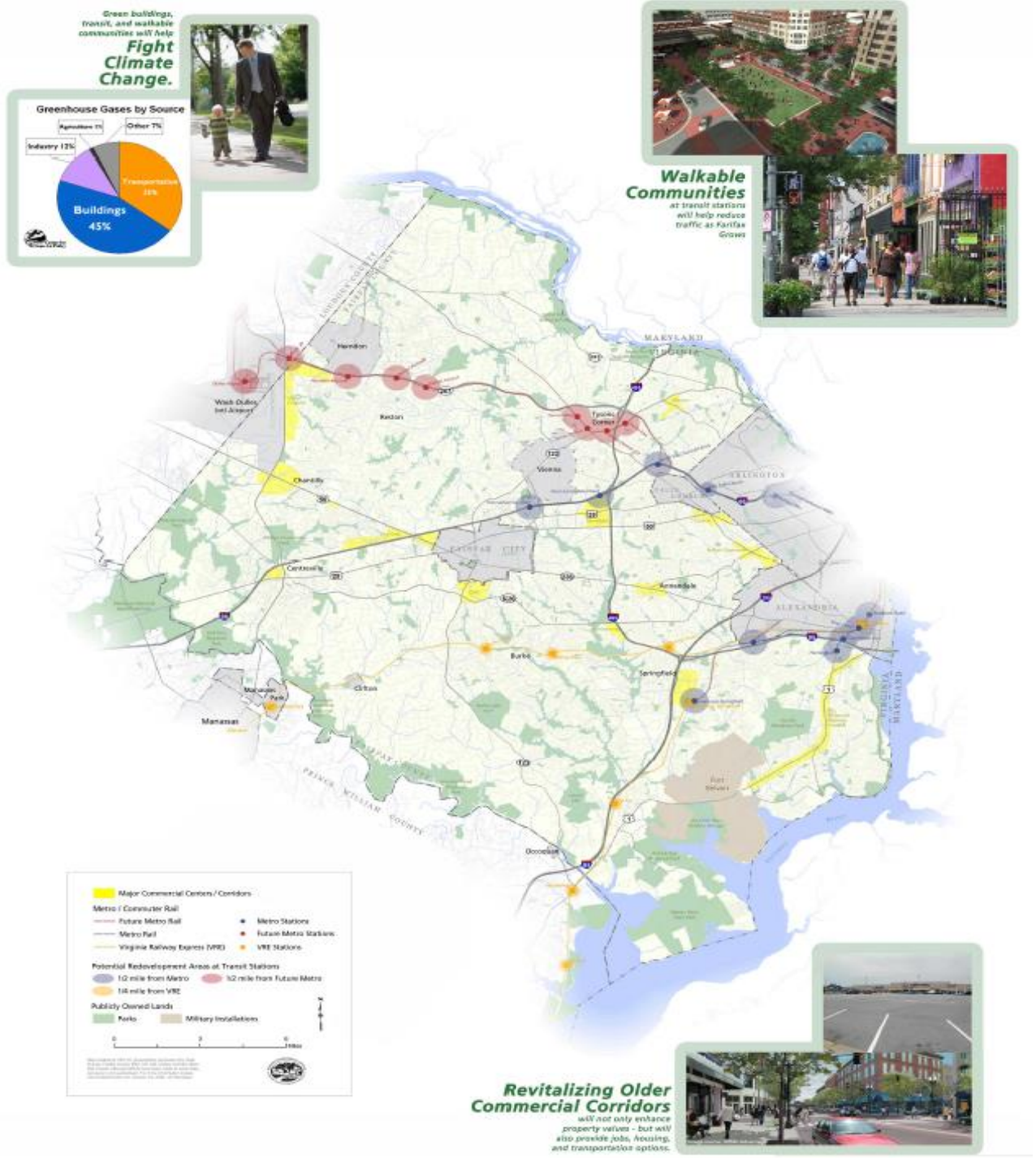
GHG emissions are much lower in Arlington County (5.05 tons per household), the more transit-oriented and compact county, than in Loudoun County (10.26 tons per household).

Data from Center for Neighborhood Technology, The Housing and Transportation (H+T®) Affordability Index: https://htaindex.cnt.org/

CSG spearheaded the re-planning of Tysons for TOD

Image credit: Fairfax County, https://www.washingtonpost.com/wp-srv/metro/documents/tysonsdraft05272010.pdf


Image credit: Fairfax County, http://dls.virginia.gov/groups/DLUT/MEETINGS/111208/Tysons.pdf



CSG– Shaping the Future of Fairfax

- Map shows the approximately 10% of Fairfax land that could support TOD and absorb population growth
- ½ mile circles around Metro Stations (red and gray); ¼ mile circles around VRE stations (orange)
- Commercial corridors and their parking lots that could be redeveloped into mixed-use, walkable places with transit
- In 2008, 1000 Fairfax residents signed up with CSG at polling stations based upon the short presentation we made with this map

Image credit: Piedmont Environmental Council and Coalition for Smarter Growth, bottom right image: Urban Advantage

Kings Crossing area on Route 1 in Fairfax

- Shows the acres of parking lots and strip commercial that could be redeveloped
- Planned for a future bus rapid transit stop and TOD
- Bottom right is Quander Brook, which can be saved and restored when redevelopment puts in place stormwater controls

Image credit: United States Geological Survey (USGS)

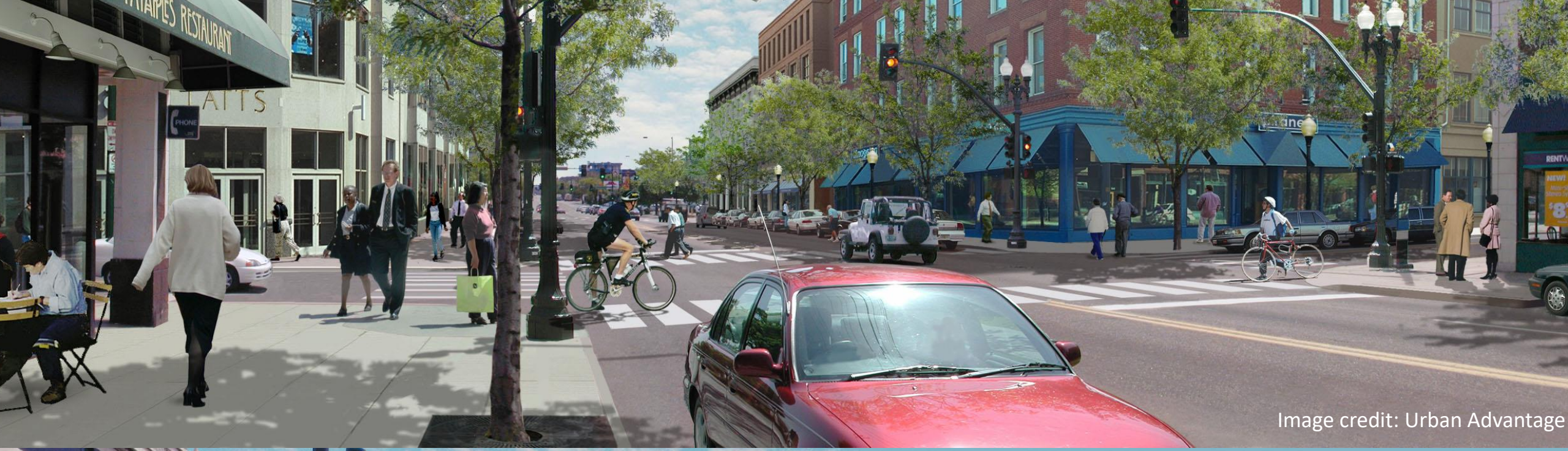


Image credit: Urban Advantage

Image credit: Urban Advantage

Marketing the benefits for current and next generation


Image credit: Coalition for Smarter Growth


Image credit: Coalition for Smarter Growth


Image credit: Coalition for Smarter Growth

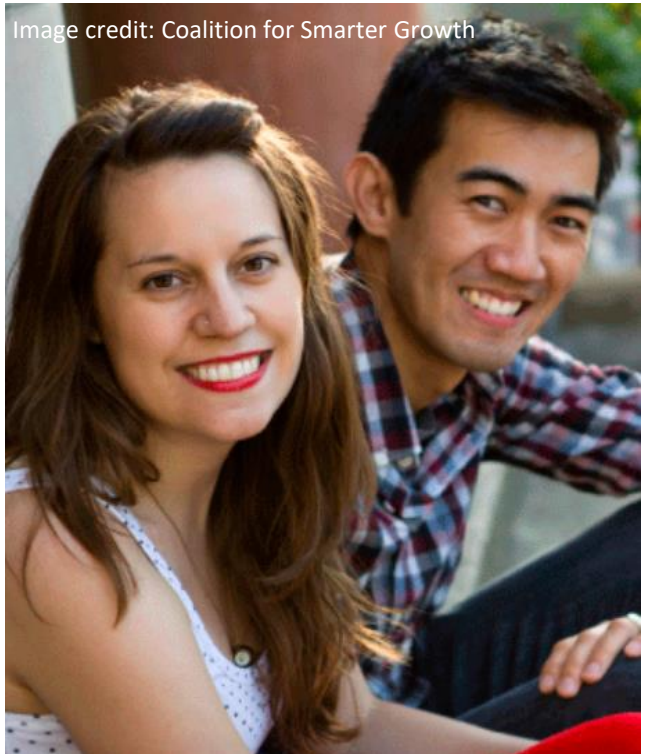


Image credit: Coalition for Smarter Growth


Image credit: Aimee Custis for Coalition for Smarter Growth

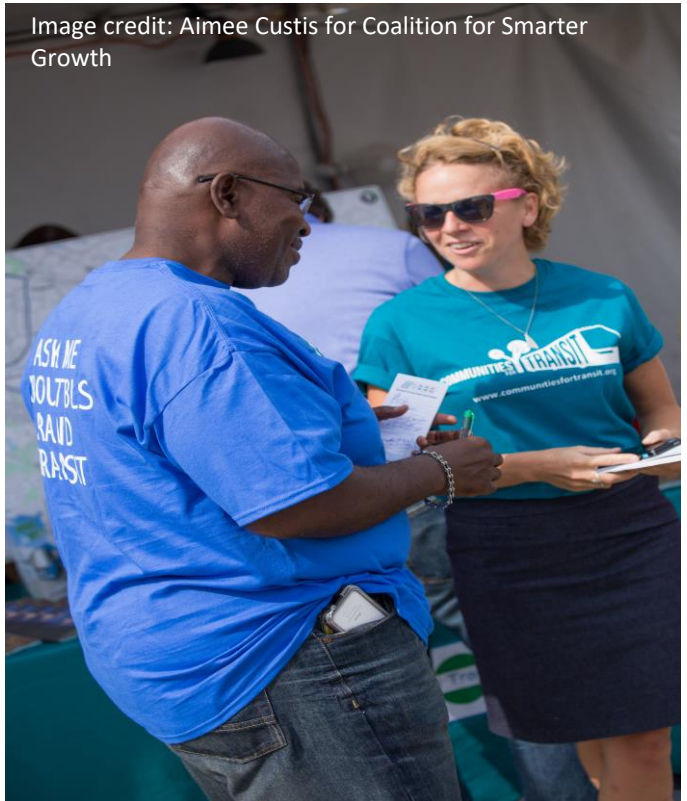


Image credit: Aimee Custis for Coalition for Smarter Growth

Local advocacy + state policy/funding

- State advocacy
  - 2005 Reconnecting VA – CSG/PEC/STPP/SELC statewide vision
  - Success with 2007 land use and transportation legislation, 2014 SmartScale, 2020 transit funding and TOD legislation
  - State transportation funding and policy key to investing in the right projects
  - Also need to look at state housing funding and policy; funding and location policies for schools, industrial areas, economic development incentives; resiliency plans
- Local advocacy for change is critical
  - Housing is a transportation solution – close to jobs/transit
  - Land use (TOD), bike/walk, transit, parking policy, placemaking
  - Land conservation and stopping sprawl
  - Coalitions/partnerships – joint agendas
  - On the ground coalition builders/organizers

Coalition for Smarter Growth
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Thank you to Arlington County for the data used in these slides including Dennis Leach (Transportation), John Morrill (Energy), and Chris Zimmerman (former County Board member), the Metropolitan Washington Council of Governments for the mode share comparison, and the Center for Neighborhood Technology for the H+T data. Thank you also to Alina Zaidi, Georgetown University student serving as a CSG intern, 2020.