

Compacted and Connected Development or Low Density Development: Which is More Resource-Effective?

During the development of the Imagine Austin Comprehensive Plan (IACP), a number of studies were conducted to gauge the resource-effectiveness of different urban communities. Three studies were conducted specifically to project potential impacts associated with Imagine Austin.

Alternative Futures Working Paper

ftp://ftp.ci.austin.tx.us/GIS-Data/planning/compplan/council-backup-26apr12/5_AlternativeFuturesWP_9.20.10_small.pdf

An initial analysis was conducted on the results of the Community Forum Series (CFS) #2. The community input from the scenario building exercise from CFS #2 generated four possible growth scenarios: a scattered low-density scenario, a crescent scenario which focused growth away from environmentally sensitive land in the southwest and west, a compact centers scenario, as well as a dense, central city redevelopment scenario. In addition to these, staff created a fifth scenario which extrapolated historic and current development trends, current land use regulations, and announced and planned major developments to create a trend scenario map.

Using accepted standards, the Imagine Austin consultant team developed a number of indicators that allowed comparison of the different scenarios. The indicators included measures relating to land use, transportation, the environment, and the economy. Generally speaking, the indicator results showed more positive outcomes with the more compact scenarios.

Imagine Austin Comprehensive Plan Infrastructure, Operations, Maintenance and Service Cost Comparison: Preferred Growth Scenario and Trend Growth Scenario

http://www.austintexas.gov/sites/default/files/files/Planning/ImagineAustin/Imagine%20Austin%20Comp%20Plan%20Cost%20Report%202012-07_small.pdf

This study, conducted by Chan & Partners Engineering, compared projected infrastructure costs between the Trend Scenario and Preferred Growth Scenario. The major conclusion of this study is that “the preliminary estimates project the costs for the City of Austin of providing public infrastructure and services under the trend growth scenario to be

between \$4.8 billion and \$21.5 billion higher than the preferred growth scenario over the thirty-year planning period.”

Fiscal Impact Analysis of Mixed-Use Redevelopment along South Congress Avenue

ftp://ftp.ci.austin.tx.us/GIS-Data/planning/compplan/council-backup-26apr12/7_COLOR_Austin%20Comp%20Plan%20-%20Fiscal%20Impact%20Analysis%2011%2016%202011_revised.pdf

This study, conducted by Angelou Economics, assessed potential fiscal impacts associated with mixed use redevelopment as envisioned by Imagine Austin along South Congress Avenue from Oltorf Street to Stassney Lane. The analysis estimated:

- Mixed-use redevelopment along the South Congress Avenue corridor is expected to generate nearly \$39 million in new annual tax revenue (in 2011 dollars), providing a significant boost to Austin's tax base.
- The cumulative new tax revenue from 2011 to 2040 is projected to be over \$582 million, assuming a complete build-out by 2040.
- Increased costs for locally-provided services such as schools, police, fire protection, and others.
- The need for infrastructure investments (roads, public transportation, water/wastewater, parks/streetscapes).
- Increased property values will likely make it more difficult to preserve existing affordable housing or construct new affordable housing within the study area.
- High-density infill development provides a much more efficient and sustainable alternative to new greenfield developments in suburban locations.
- The addition of a large amount of jobs and housing along South Congress Avenue would greatly improve the cost-effectiveness of transit within the study area. The study area is within the larger MetroRapid bus rapid transit route 801 (North Lamar/South Congress), which is projected to start service in early 2014.
- The construction of mixed-use developments along South Congress Avenue would be a catalyst for the creation of attractive, walkable neighborhoods along sections of the corridor that are currently dominated by land uses that are not conducive to vibrant street life and pedestrian activity.

In addition to the studies, the City of Austin has commissioned the Building Compact and Connected Speakers Series featuring:

- Christopher Leinberger presenting “Development Trends Toward Walkable Urbanism”

- Ellen Dunham-Jones imparting “Lively Places, Retrofitting Suburban Spaces into Lively Places”
- Mitchell Silver, Tina Axelrad, Veletta Forsythe, and Mike Slavney discussing “Four Cities. Four Land Development Codes. Hear Their Stories”

Please go here to view the videos:

<http://www.austintexas.gov/blogs/content/1780/imagine-austin-speaker-series>

The findings of these studies and presentations are generally consistent with the findings of a multitude of professional research outside of the Austin context and are listed below.

Bibliography of Articles and Studies about Compact and Connected and Low Density Development

This bibliography includes professional research, articles and studies that focus on various aspects of compact and connected and low density development. These articles can either be found on-line or by contacting Planning and Development Review staff. As much has been written about this topic, the bibliography has been organized by themes.

Fiscal Impacts

Adelaja Soji and Malika Chaudhuri, 2007. “Optimal Density for Municipal Revenues.” Selected paper prepared for presentation at the American Agricultural Economics Association Annual Meetings, Portland, OR, July 29-August 1, 2007.
<http://ideas.repec.org/p/ags/aaea07/9779.html>

Burchell, Robert, and Sahan Mukherji. 2003. “Conventional Development Versus Managed Growth: The Costs of Sprawl.” *American Journal of Public Health*. 93.4: 1534-1540.
<http://ajph.aphapublications.org/doi/pdfplus/10.2105/AJPH.93.9.1534>

City of Calgary. 2009. “Plan It Calgary: The Implications of Alternative Growth Patterns on Infrastructure Costs.”
http://www.calgary.ca/docgallery/BU/planning/pdf/plan_it/plan_it_calgary_cost_study_analysis_april_third.pdf.

Environmental Protection Agency. June 2013. “Our Built and Natural Environments: A Technical Review of the Interactions Among Land Use, Transportation, and

- Environmental Quality (2nd Edition).” Smart Growth Program.
<http://www.epa.gov/smartgrowth/built.htm>
- Hulsey, Brett. 1996. “Sprawl Costs Us All: How Uncontrolled Sprawl Increases Your Property Taxes and Threatens Your Quality of Life.”
<http://www.sierraclub.org/sprawl/articles/hulsey.asp>.
- Langdon, Phillip. September 12, 2010. “Best bet for tax revenue: mixed-use downtown development” Better! Cities and Towns.
<http://bettercities.net/article/best-bet-tax-revenue-mixed-use-downtown-development-13144>
- Livingston, Ann, Elizabeth Ridlington, and Matt Baker. 2003. “The Costs of Sprawl: Fiscal, Environmental, and Quality of Life Impacts of Low-Density Development in the Denver Region.” Denver: Environment Colorado Research and Policy Center.
<http://www.policyarchive.org/handle/10207/bitstreams/5153.pdf>
- McKeeman, Alanna. May 2012. “Land Use, Municipal Revenue Impacts, and Land Consumption A Study of Property Tax Revenue per Acre in Fairfax County, Virginia.” Major Paper Submitted in Partial Fulfillment of the Requirements of the Degree of Master of Urban and Regional Planning, Virginia Tech
<http://www.baconsrebellion.com/PDFs/2013/02/McKeeman.pdf>
- Minicozzi, Joseph. January 23, 2012. “The Smart Math of Mixed-Use Development.” Planetizen.
<http://www.planetizen.com/node/53922>
- Muro, Mark and Robert Puentes. 2004. “Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns.” Washington, D.C.: The Brookings Institution Center on Urban and Metropolitan Policy.
http://www.brookings.edu/~media/Files/rc/reports/2004/03metropolitanpolicy_muro/200403_smartgrowth.pdf.
- Snyder, Ken and Lori Bird. 1998. “Paying the Costs of Sprawl: Using Fair-Share Costing to Control Sprawl.”
<http://www.smartcommunities.ncat.org/articles/sprawl.pdf>
- Sustainable Cities International. September 2012. “Infrastructure Costs and Urban Growth Management: A practical guide to understanding the impact of urban growth patterns on a city’s infrastructure costs.”
<http://sustainablecities.net/our-work/services/infrastructure-costing>
- Urban Land Institute. 2012. “Shifting Suburbs: Reinventing Infrastructure for Compact Development.”

<http://www.uli.org/infrastructure-initiative/shifting-suburbs-reinventing-infrastructure-for-compact-development/>

1000 Friends of Oregon. January 2013. "More Extensive Is More Expensive: How Sprawl Infrastructure Bankrupts Oregon Communities, and What We Can Do About It."

<http://www.friends.org/infrastructure>

Housing and Neighborhood Impacts

Doherty, Patrick and Christopher B. Leinberger. 2010. "The Next Real Estate Boom: How housing (yes, housing) can turn the economy around."

<http://www.washingtonmonthly.com/features/2010/1011.doherty-leinberger.html>

Downs, Anthony. 2002. "Have Housing Prices Risen Faster in Portland than Elsewhere?" Fannie Mae Foundation, Volume 13, Issue 1

http://www.knowledgeplex.org/kp/text_document_summary/scholarly_article/relfiles/hpd_1301_downs.pdf

Ducker, Adam. 2008. "Generation Y and the MPC: Oil and Water or the Next Big Wave?" Urban Land Institute MPC Conference | June 13 2008

http://www.rclco.com/generalpdf/general_Jun1320081110_ULI_MPC_Conference_RCLCO_Gen_Y_6.13.pdf

El Nasser, Haya. "Subdivisions go urban as housing market changes." USA Today, May 15, 2012.

<http://usatoday30.usatoday.com/money/economy/housing/story/2012-05-15/housing-fills-in-urban-areas/54979594/1>

Glaeser, Edward, Joseph Gyourko and Raven Saks. 2005. "Why Is Manhattan So Expensive? Regulation and the Rise in Housing Prices." Journal of Law and Economics, Vol. 48, No. 2 (October 2005), pp. 331-369

<http://www.jstor.org/stable/10.1086/429979>

Glaeser, Edward and Joseph Gyourko. March 2002. "The Impact of Zoning on Housing Affordability." Harvard Institute of Economic Research Discussion Paper Number 1948

<http://post.economics.harvard.edu/hier/2002papers/2002list.html>

Katz, Lawrence and Kenneth Rosen. 1987. "The Interjurisdictional Effects of Growth Controls on Housing Prices." Journal of Law and Economics, Vol. 30, No. 1 (Apr., 1987), pp. 149-160

<http://www.jstor.org/stable/725395>

- LaRue, Todd. 2007. "Multigenerational Demand for Urbanism." Presented at CNU XVI; Austin, TX
<http://www.cnu.org/sites/www.cnu.org/files/LaRue-ultigenerationalDemand.pdf>
- Nelson, Arthur. May 2000. "Effects of Urban Containment on Housing Prices and Landowner Behavior." Lincoln Institute of Land Policy
http://www.lincolninst.edu/pubs/298_Effects-of-Urban-Containment-on-Housing-Prices-and-Landowner-Behavior-
- Peirce, Neal. 2010. "Compact Real Estate: The Stimulus We Need?" Washington Post Writers Group
<http://citiwire.net/columns/compact-real-estate-the-stimulus-we-need/>
- Quigley, John and Larry A. Rosenthal. 2005. "The Effects of Land Use Regulation on the Price of Housing: What Do We Know? What Can We Learn?." Cityscape, Vol. 8, No. 1, Regulatory Barriers to Affordable Housing (2005), pp. 69-137.
<http://www.jstor.org/stable/20868572>
- Randolph, John, Arthur C. Nelson, Joseph M. Schilling, and Jonathan Logan. October 2007. "Effects of Environmental Regulatory Systems on Housing Affordability" U.S. Department of Housing and Urban Development.
<http://www.huduser.org/publications/pdf/HUDEnvReptFinal.pdf>
- Steuteville, Robert. April 29, 2011. "Housing: An irresistible force meets an immovable object: Rental and transit-oriented development will dominate market demand for the next decade, but will public officials provide the right framework?" Better! Cities and Towns
<http://bettercities.net/news-opinion/blogs/robert-steuteville/14629/housing-irresistible-force-meets-immovable-object>
- Urban Land Institute. 2010. "Housing in America: The Next Decade."
<http://www.uli.org/report/housing-in-america-the-next-decade/>
- Urban Land Institute. 2011. "What's Next? Real Estate in the New Economy."
http://www.morpc.org/pdf/ULI_whatsnext_inRealEstate.pdf

Physical and Social Impacts

- Benfield, Kaid. January 8, 2013. "Suburban sprawl could destroy up to 34 million acres of forests, says new study." Natural Resource Defense Council.
http://switchboard.nrdc.org/blogs/kbenfield/suburban_sprawl_could_destroy.html
- Centers for Disease Control and Prevention. August 2009. "Mixed-Use Communities: A Route to Healthy Living?"
<http://www.cdc.gov/prc/stories-prevention-research/stories/atlantic-station.htm>

- City of Vancouver. 2008. "Vancouver Ecodensity Charter: How Density, Design, and Land Use Will Contribute to Environmental Sustainability, Affordability, and Livability."
<http://www.mayorsinnovation.org/pdf/19ecodensityvancouver.pdf>
vancouver.ca/ecodensity
- Cotugno, Andy. 2009 "Driving and the Built Environment: Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions." Congress for New Urbanism Transportation Summit
<http://www.cnu.org/presentations/2009/andy-cotugnodriving-and-built-environmenteffects-compact-development-motorized-tr>
- County Health Rankings and Roadmaps. 2013. "Zoning regulations: land use policy and Mixed Use Development"
<http://www.countyhealthrankings.org/program/zoning-regulations-land-use-policy>
<http://www.countyhealthrankings.org/program/mixed-use-development>
- Ewing, Reid, Rolf Pendall, and Don Chen. 2002. "Measuring Sprawl and its Impact." Washington, D.C.: Smart Growth America.
<http://www.smartgrowthamerica.org/sprawlindex/MeasuringSprawl.PDF>
- Ewing, Reid, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. 2007. "Growing Cooler: The Evidence on Urban Development and Climate Change." Smart Growth America
http://postcarboncities.net/files/SGA_GrowingCooler9-18-07small.pdf
- Frontier Group. April 2012. "Transportation and the New Generation: Why Young People Are Driving Less and What It Means for Transportation Policy?" U.S. PIRG Education Fund.
<http://www.uspirg.org/reports/usp/transportation-and-new-generation>
- Golob, Thomas and David Brownstone. 2005. "The Impact of Residential Density on Vehicle Usage and Energy Consumption." University of California Energy Institute.
<http://www.escholarship.org/uc/item/8zk9d9sb>
- Jackson, Richard and Chris Kochtitzky. 2001. "Creating a Healthy Environment: The Impact of the Built Environment on Public Health." Centers for Disease Control and Prevention: Sprawl Watch Clearinghouse Monograph Series
<http://www.sprawlwatch.org/health.pdf>
- Lewyn, Michael. January 7, 2013 "Density Reduces Driving (Even at Pretty High Densities)." Planetizen
<http://www.planetizen.com/node/60168>

- Oregon Transportation and Growth Management Program. 2011. Cool Planning: A Handbook on Local Strategies to Slow Climate Change.”
http://www.oregon.gov/lcd/tgm/docs/cool_planning_handbook.pdf
- Stone, Brian, Jeremy Hess, and Howard Frumkin. 2010. “Urban Form and Extreme Heat Events: Are Sprawling Cities More Vulnerable to Climate Change than Compact Cities?” Environmental Health Perspectives, Volume 118 | number 10 | October 2010
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2957923/pdf/ehp-118-1425.pdf>
- Transportation Research Board. 2009. “Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions.” Special Report 298
<http://onlinepubs.trb.org/Onlinepubs/sr/sr298.pdf>
- Urban Land Institute. 2005. “Higher-Density Development: Myth and Fact.”
<http://www.nmhc.org/files/ContentFiles/Brochures/Myth%20and%20Fact%20FINAL.pdf>
- Urban Land Institute. 2005. “Smart Growth: Myth and Fact.”
http://www.thejcra.org/jcra_files/File/resources/ULI_Smart_Growth.pdf

Placemaking

- Belden Russonello & Stewart LLC. March 2011. “The 2011 Community Preference Survey: What Americans are looking for when deciding where to live.” National Association of Realtors.
<http://www.stablecommunities.org/sites/all/files/library/1608/smartgrowthcommurveyresults2011.pdf>
- Benfield, Kaid. March 4, 2013. “Not All Density Is Created Equal.” The Atlantic Cities.
<http://www.theatlanticcities.com/neighborhoods/2013/03/why-we-need-stop-obsessing-over-density-all-costs/4862/>
- Benfield, Kaid. February 13, 2013. “10 principles for making high-density cities better.” Natural Resource Defense Council
http://switchboard.nrdc.org/blogs/kbenfield/10_principles_for_making_high-.html
- Borys, Hazel. September 13, 2012. “Places that pay: Benefits of placemaking.” Better! Cities and Towns.
<http://bettercities.net/news-opinion/blogs/hazel-borys/18875/places-pay-benefits-placemaking>
- Ewing, Reid and Robert Hodder. 1998. “Best Development Practices: A Primer for Smart Growth” Smart Growth Network.
<http://www.epa.gov/dced/pdf/bestdevprimer.pdf>

Florida, Richard. October 2012. "What Draws Creative People? Quality of Place." Urban Land Institute

<http://urbanland.uli.org/Articles/2012/Oct/FloridaCreative>

Kackar, Adhir and Ilana Preuss. 2003. "Creating Great Neighborhoods: Density in Your Community." Local Government Commission in cooperation with the U.S. EPA

<http://www.epa.gov/smartgrowth/pdf/density.pdf>

Siembab, Walter and Marlon G. Boarnet. June 30, 2012. "Making Suburbs Sustainable: New land use patterns, mobility options and business practices to increase walking and reduce gasoline consumption." Smart Growth Network.

http://www.smartgrowth.org/nationalconversation/papers/Siembab_Boarnet_Making_Suburbs_Sustainable.pdf#search=compact

Williams, Alex. February 15, 2013. "Creating Hipsturbia." The New York Times.

http://www.nytimes.com/2013/02/17/fashion/creating-hipsturbia-in-the-suburbs-of-new-york.html?_r=0