Growth Assessment

Comparing Conventional and Strategic Growth

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How Will We Grow?

In just 21 years, by 2030, an additional 20,000 to 40,000 more people are projected to live within the unincorporated areas of San Luis Obispo County[1]. This equates to a need for between roughly 8,300 and 16,600 additional dwelling units. This report examines our future and the potential results of continuing with conventional (typical suburban) growth or choosing more compact strategic (smart) growth. High housing prices and limited water supplies, infrastructure and road capacities are confronting us with challenging decisions. San Luis Obispo County is regularly ranked as one of the most expensive housing markets in the United States. Many community water supplies are at or near critical levels, as are major highway interchanges. How shall we grow in the face of these and related issues?

How Much Future Growth?

Within 22 years, the estimated ***unincorporated area*** population of 103,700 in 2008 is projected to increase from between approximately 20,000 to 40,000 people by 2030 – see Figures 1 and 2[2]. This range is based on a 2008 state Department of Finance (DOF) projection, and one by the Department of Planning and Building that adjusts the DOF projection to more local conditions. Both projections assume that resources, public facilities and services would constrain growth to greater and lesser degrees. Both projections assume that the additional people would be living in the unincorporated 10 urban areas, 14 villages and rural area.

In 2008, the County Board of Supervisors began hearings on amending the General Plan to orient toward "Strategic Growth," for compact, efficient development that is targeted within communities where resources and facilities are available.

This report is prepared to assess the relative effects of strategic growth planning versus conventional growth patterns on land area, water supply and infrastructure.

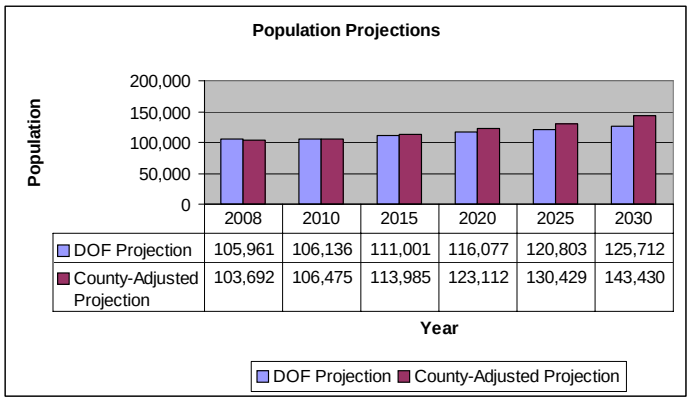


Figure 1: Population Projections – 2008 - 2030

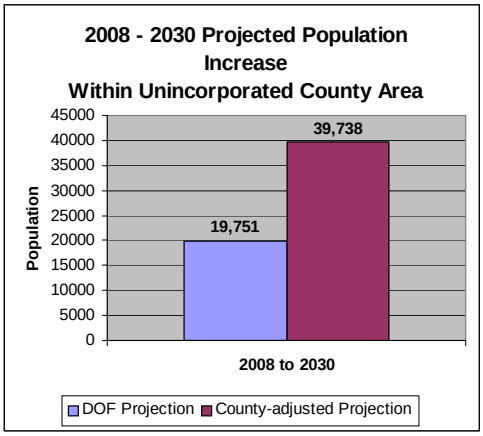


Figure 2: Projected Population Increase

Where Will Growth Occur?

Rural areas experienced about 40 percent of the total unincorporated growth since 2000, as shown in Figure 3, ("urban" areas include all urban and village area development). Rural areas have been attractive for affordable living away from urban life, and for luxury country estates. A large supply of parcels has been developed in the north county. Called *antiquated subdivisions*, they were created before modern land division statutes required water supplies, adequate roads and environmental considerations. This supply of rural parcels is diminishing, which raises the question of where this significant share of future growth may occur. However, if the recent trend of building 2 of every 5 unincorporated new homes within rural areas continues, between 7,900 and 15,800 additional people are projected in rural areas by 2030.

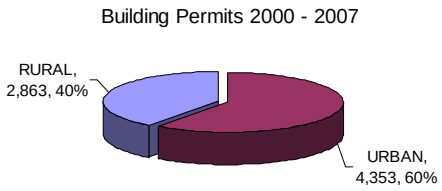


Figure 3: Location of Residential Building Permits, 2000 - 2007

County Urban Areas:
Avila Beach
Cambria
Cayucos
Los Osos
Nipomo
Oceano
San Miguel
Santa Margarita
Shandon
Templeton

County Village Areas:
Black Lake
California Valley
Callender/Garrett
Creston
Garden Farms
Heritage Village
Los Berros
Los Ranchos/Edna
Oak Shores
Palo Mesa
Pozo
San Simeon Acres
Whitley Gardens
Woodlands

The unincorporated communities include 10 urban areas and 14 smaller villages. Growth is projected to occur within these urban areas, due to their size, extent of public facilities and services, and local employment areas. Much of the projected population increase could be accommodated within all of the urban areas, although some would "build-out" their zoning earlier than 2030. Due to their size, location attraction or other factors, Nipomo and Los Osos are projected to absorb almost half of projected growth in the urban areas, as shown in Figure 4. However, existing or potential water supply and sewer system problems would

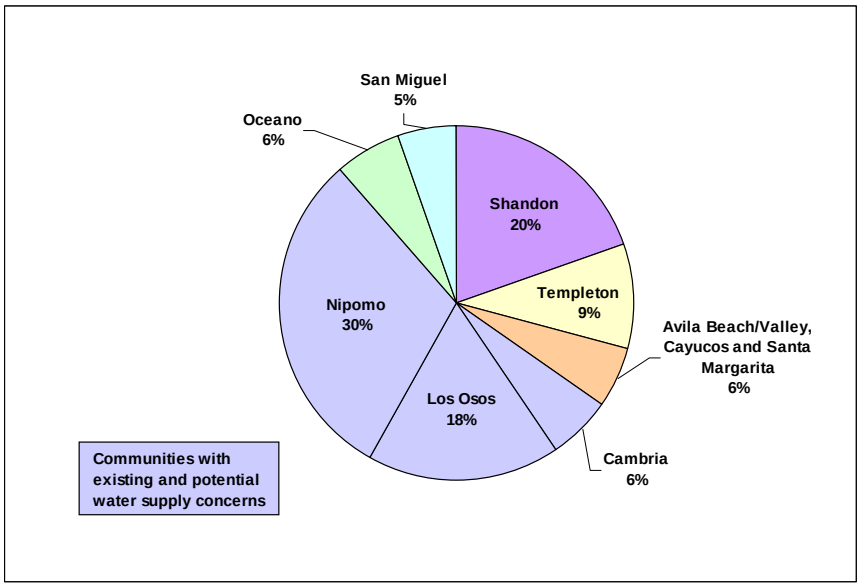


Figure 4 : Share of Projected Population Growth – 2008 - 2030

limit these large shares of projected growth. In the short-term, much growth could be absorbed within Oceano, San Miguel and Shandon. As the Nacimiento Water Project is built, and as communities such as Nipomo and Los Osos develop additional water supplies and sewer systems, additional growth within them and in Templeton would be possible.

Factors to Consider:

If growth is to occur, it will be necessary to provide adequate water supply and other resources, facilities and services. As with any growth, we need suitable space (land) and supporting resources such as water and energy. Our population growth will result in additional development within the unincorporated county if we have the land, resources and infrastructure to support it. County Government currently monitors several resources and facilities that are essential factors to be considered:

- Water supply
- Water systems
- Sewer systems
- Roads
- Schools
- Air quality

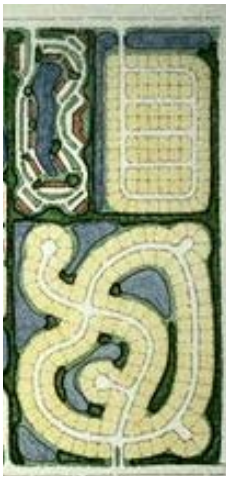
Other factors to consider:

- Greenhouse gas emissions
- Freeway interchanges
- Park land
- Fire safety and response
- Costs and ability to pay

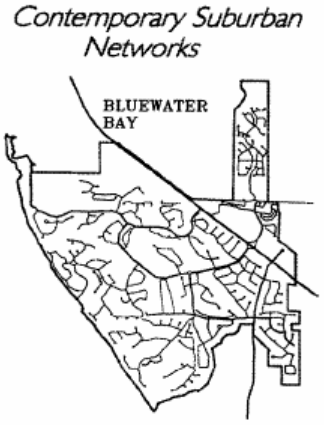
What Kinds of Growth?

Two kinds of growth are reviewed in this report for their extent of demand on land area, water resources, roads and public facilities such as sewer systems. Each one, conventional or strategic growth, is based on the following assumptions.

Conventional growth


Large-lot subdivisions

Conventional growth is the pattern of development that we are used to seeing. Housing is primarily detached single-family homes on large lots, located away from jobs, shopping and recreation. These uses are planned in large-scale districts with few access connections between them except along major streets. Driving is often necessitated by the distance and lack of connection between residences and other uses. Compact development is not prevalent and is often located in older, lower-value neighborhoods that are located away from daily services.



Street patterns and infrastructure are planned in a branching hierarchy of local, collector and arterial streets. Suburban development is a major share of overall development. It often is located outside urban areas within rural enclaves. Rural development is increasingly residential interspersed among

agricultural uses, and rural recreational uses can be large-scale and extensive. Rural development is often dominant on the landscape, breaking up its open space character.

Strategic Growth

Small-lot subdivisions

The concept of strategic (or "smart") growth locates housing close to, and preferably within walking distance of jobs, shopping and recreation. Small-scale districts of these uses have convenient access between them. More compact, higher density development is located closer to transit stops near major corridors, neighborhood shopping areas and downtowns.

Street patterns and infrastructure are in a connected grid network. Suburban development is a minor share of overall development, and is located within the boundary of the urban area. Rural development is in support of agriculture and small-scale rural recreational uses, and it is subordinate to rural and character and open space visual resources.

Housing Mix and Affordable Living

Ninety percent of residential zoning in current community plans is allocated for large-lot housing, as shown in Figure 5. Only 10 percent of the land in County community plans is zoned for multi-family development (condos, planned unit developments and apartments). The County does not have zoning specifically for small-lot detached housing (less than 6,000 square foot lots). This ratio of large-lot zoning, compared to more affordable, small-lot and multi-family zoning, is typical of conventional suburban planning.

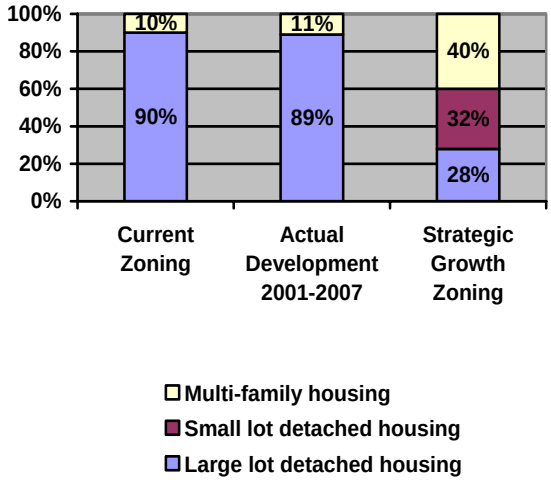


Figure 5: Shares of Residential Development

Recent actual development followed this pattern and was built almost exclusively in single-family detached housing – see Figure 5. Only 11 percent of all residential development was multi-family homes between 2001 and 2007. This lack of development is partly due to a low supply of land with multi-family zoning.

Strategic growth zoning is allocated to the housing types that can generally be afforded by people in the local economy. Strategic growth zoning as shown in Figure 5 could allocate 40 percent of land needed for projected growth to multi-family housing. This higher density development is most affordable to the 40 percent of the county wage-earning population that has low and very low incomes.

Strategic growth could allocate 32 percent of land for small-lot detached housing for moderate- and workforce-income wage earners. These income groups earned between 80 and 160 percent of the median household income of $50,209 in 2006. Higher income wage earners, who comprise approximately 28 percent of all wage earners, could be allocated this share of zoning for detached houses on large lots.

Very Low Income *(up to 50% of county median income)*
Lower Income *(50% to 80% of county median income)*
Moderate Income *(80% to 120% county median income)*
Workforce Income *(120% to 160% of county median income)*

Future Land Area Needs

With large-lot zoning, conventional growth occupies more land per unit than strategic growth, just considering the area around a house. If conventional growth continues for the projected population, Figure 6 shows that the 2,591 acres of land area needed would be twice the 1,212 acres that strategic growth zoning would require for the zoning allocations shown in Figure 5.

The reason for the difference is that strategic growth zoning would allow more units per acre of land area with small-lot houses and attached multi-family development. With the projected population increase, strategic growth could save over half the land area needed for conventional residential development. This area could continue to be used for agriculture, open space, habitats and recreation. The acreage estimates in Figure 6 are based on the County-adjusted projection of 40,000 additional people in 2030.

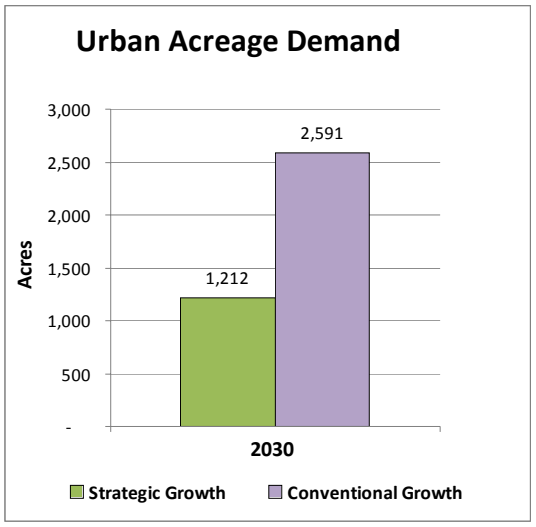


Figure 6: Urban Residential Acreage Demand from Strategic and Conventional Growth

Water Demand

Water demand from conventional growth in 2030 would be about eight percent more than if residential development occurred with strategic growth zoning. The primary difference is in the additional irrigation for large yards and lawns with large-lot development. These yards use more water than the smaller yards or patios typical in strategic growth development. With a limited water supply, strategic growth could encourage water conservation through the design of development. Combined with other conservation measures, water use could more easily be minimized than with large-lot development, which encourages greater irrigation.

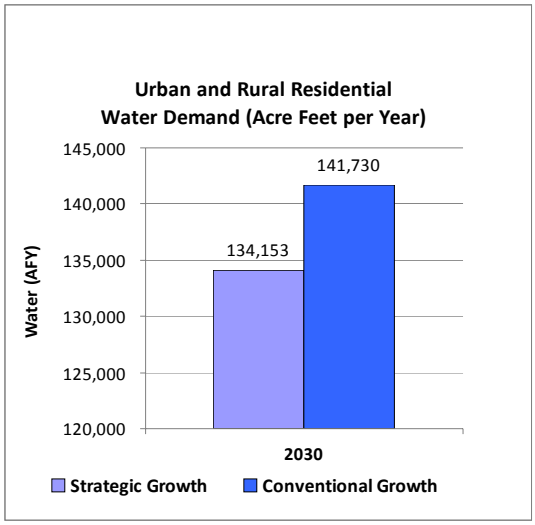


Figure 7: Urban and Rural Residential Water Demand (Acre Feet per Year – AFY)

Infrastructure Costs

Infrastructure *is the basic facilities and equipment necessary for the effective functioning of a community, such as water supply and service, sewage disposal, electric and gas connections, storm water runoff, and transportation.*

Several studies have compared the costs of public facilities and streets for conventional and strategic growth. The results reflect a common-sense observation that per-unit, and per-capita costs of infrastructure decrease as more units per acre are developed, up to a point. With more people per acre to share the costs of infrastructure, strategic growth planning reduces each unit's cost of most but not all facilities. Most studies indicate that a decline in costs does occur as the "density" of dwellings and people per acre increases. One study (Frank, 1989) identified various factors that affect these costs, including density and distance from the existing urban center (town or city), as illustrated in Figure 8[3].

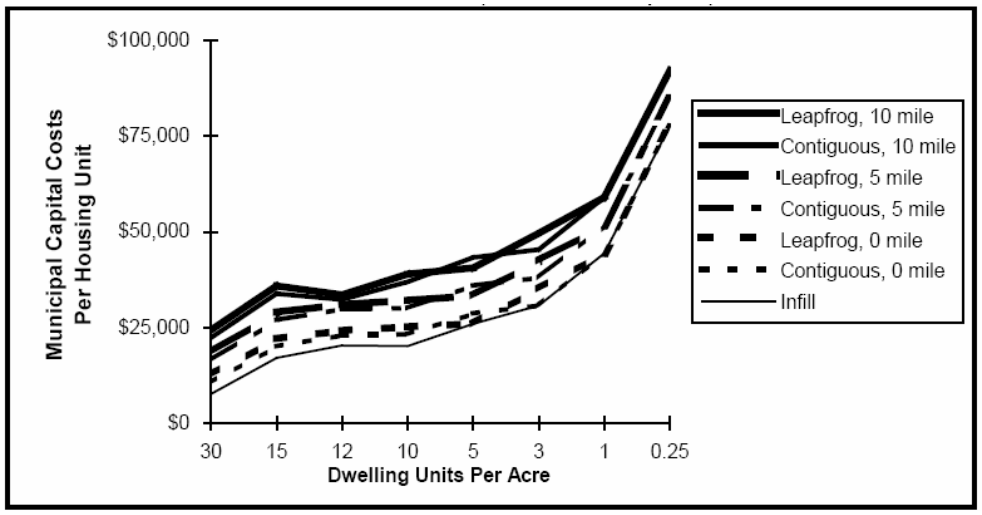


Figure 8: Residential Service Capital Costs

Compact development can have 8 – 14% savings in water and sewer costs, as listed in Figure 9, compared to lower average suburban densities in several studies by Robert Burchell[4].

Area of Impact	*Lexington, KY and Delaware Estuary*	*Michigan*	*South Carolina*	*New Jersey*
I. Public-Private Capital and Operating Costs				
1. Infrastructure Roads (local)	14.8-19.7%	12.4%	12%	26%
2. Utilities (water/sewer)	6.7-8.2%	13.7%	13%	8%
3. Housing Costs	2.5-8.4%	6.8%	7%	6%
4. Cost-Revenue Impacts	6.9%	3.5%	5%	2%
II. Land/Natural Habitat Preservation				
1. Developable Land	20.5-24.2%	15.5%	15%	6%
2. Agricultural Land	18-29%	17.4%	18%	39%
3. Frail Land	20-27%	20.9%	22%	17%

Figure 9: Burchell (1992-1997) Findings of Savings of Compact Growth Versus Current or Trend Development

Much greater disparity was found in the Twin Cities, Minnesota region by a study of capital expenses for infrastructure, which found that costs per household were less than half with Smart Growth development patterns, as shown in Figure 10[5].

	Sprawl (2.1 units/acre)	Smart Growth (5.5 units/acre)
Miles of local roads	3,396	1,201
Costs of local roads per unit	$7,420	$2,607
Other infrastructure costs per unit	$10,954	$5,206
Total	*$18,374*	*$7,813*

Figure 10: Twin City Development Patterns Compared

Greater savings were also found by researcher James Frank (1989), who found that, "the per-dwelling-unit public cost of providing streets, sewers, water systems, storm drainage, and schools to new residents varied sharply from $20,300 (1987 dollars) in the densest, most centralized configuration to $92,000 for houses 10 miles from central facilities on 1 dwelling-unit (d.u.)-per-four-acres (ac.) "estate" zoning. Within this 80 percent variation were other telling comparisons. Most notably, Frank calculated that moving to closer-in compact growth at 12 d.u. (per acre) with half the units, multifamily could cut to $24,000, or halve, the $48,000 per home capital costs of low-density (3 d.u./ac.) sprawling growth 10 miles from central services[6]."

U.S. cities would save about $250 billion in infrastructure costs if, between 2000 and 2025, they were to build only according to strategic (smart) growth principles[7]. Costs can be reduced for public services, such as water and sewage, roads and schools, from 2000 to 2025, with the following potential savings for governments nationwide:

- 11.8 percent, or $110 billion, from 25-year road building costs;
- 6 percent, or $12.6 billion, from 25-year water and sewer costs; and
- 3.7 percent, or $4 billion, for annual operations and service delivery[8].

A literature survey by the Brookings Institution (2004) concluded that, "Abundant academic research confirms, then, that smart growth holds out significant potential savings to governments on one-time infrastructure outlays by comparison with the spending required by low-density sprawl. Repeatedly the research suggests that adopting smart growth could reduce some states' and localities' capital expenditures by 10 to 20 percent at least, and maybe more." The survey examined the costs of operations, maintenance, and service delivery as well, and found similar savings[9].

Summary

The academic research has been consistent concerning the public costs of serving conventional and more compact development. General relationships have become apparent through this research. As Todd LItman points out, "The relationships between density and public costs are, of course, complex. Actual costs depend on the specific location and types of services provided. There are also incremental costs associated with increased density, including increased congestion and friction between activities, special costs for infill development, and often higher design standards. Ewing (1997) concludes that this relationship can be graphed as a tilde (~)[10]" as illustrated in Figure 11:

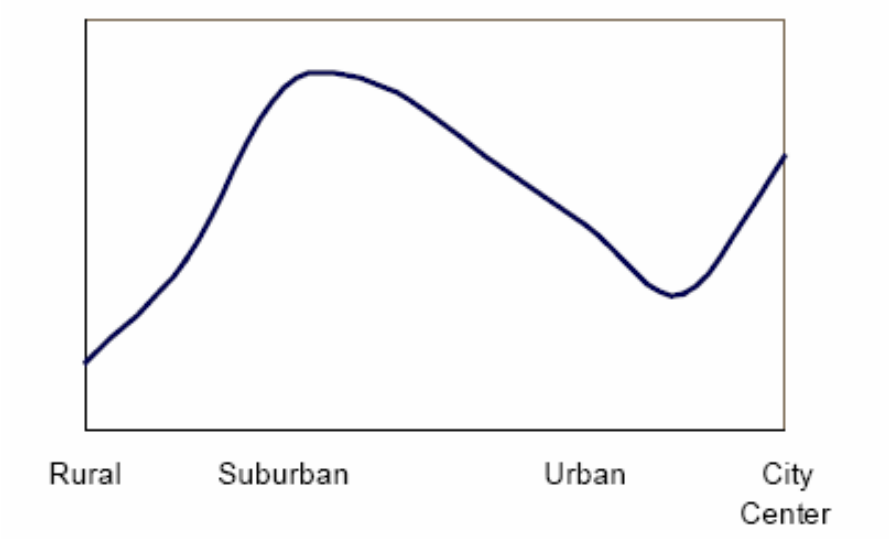


Figure 11: Land Use Impacts on Public Infrastructure and Service Costs

- Costs are low in rural areas where households provide their own services, at increased private expense.
- Costs increase in suburban areas where services are provided to dispersed development
- Costs decline with clustering, and as densities increase from low to moderate.
- Costs are lowest for infill redevelopment in areas with adequate infrastructure capacity.

Conclusions

This comparison of conventional and strategic growth assumes that projected population growth will be feasible. However, the availability of suitable land, water supply and affordable infrastructure will be critical factors, among many others. This assessment finds that substantial resource and cost savings can benefit future residents by emphasizing strategic growth for most new development. In

addition, a shift from rural development to communities with adequate supporting resources, facilities and services will also benefit future residents. Strategic growth planning is more focused on community-by-design, where all affected parties need opportunities to learn and decide how all aspects of family living come together. The County will clearly need to work closely with communities to determine the most efficient, locally appropriate ways to grow, and to fund their share of needed infrastructure, facilities and services.

End Notes

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[1] 2008 Department of Finance (DOF) projection of 19,715 additional population within unincorporated areas (outside cities) by 2030. This projection is adjusted by the Department of Planning and Building to 39,738 to account for resource availability and historical rates of growth.

[2] The 2008 Department of Finance (DOF) projection is compared with a County-adjusted projection, which includes more local assumptions than provided by DOF.

[3] Litman, Todd, Understanding Smart Growth Savings, Victoria Transport Policy Institute, 2004, *3*.

[4] Burchell, Robert & Shad, Naveed, The Costs of Sprawl – Revisited, TCRP Report 39, Transportation Research Board, 1998, *19*.

[5] Litman, Todd, 2004, *4.*

[6] Muro, Mark & Puentes, Robert, Investing in a Better Future: A Review of the Fiscal Competitive Advantages of Smarter Growth Development Patterns, The Brookings Institution Center on Urban and Metropolitan Policy, 2004.Litman, T. 2004, *14*.

[7] Burchell, Robert, and others. The Costs of Sprawl—2000. Washington: National Academy Press 2002.

[8] Muro, M & Puentes, R. 2004, *16.*

[9] Ibid, *17, 21*.

[10] Litman, T. 2004, *6.*