

# MAKING THE CASE – Health & Equity

## Health

Biking and walking are clean and healthy modes of transportation and they improve the health of regular users through physical activity. Numerous medical institutions cite that 30 minutes a day of strenuous activity is enough to help prevent a number of ailments, including cardiovascular disease, diabetes, hypertension, high cholesterol and stroke.<sup>1</sup>

## How Does Active Transportation Infrastructure Impact Adult Health Costs?

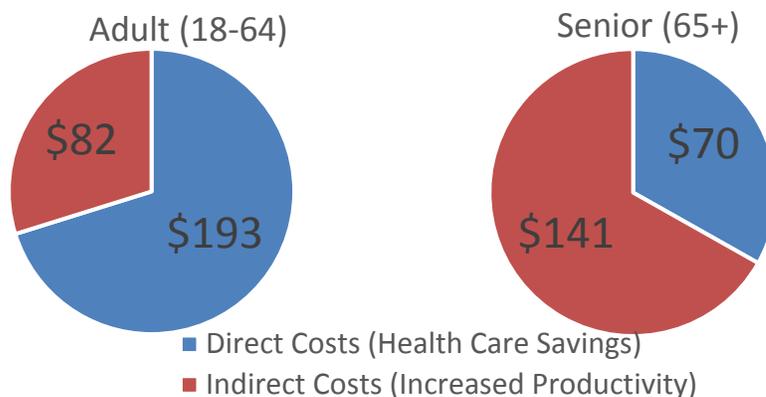
Availability of sidewalks and bikeways encourages people to walk and bike more, increasing physical activity in the SCAG region and improving community health. Assuming that 50% of active travel is attributable to this infrastructure, the active transportation system prompts the average adult to spend 18.3 minutes walking and 2.4 minutes of biking for transport each week.

Health Condition	Estimated Reduction in Current Prevalence Rates due to Active Transportation (Ages 18-64)	Estimated SCAG Region Health Savings
Diabetes	.14% 16,151 Cases	\$179M
Heart Disease	.06% 7,132 Cases	\$54M
Hypertension	.60% 70,621 Cases	\$42M

We can expect that this physical activity keeps rates of diabetes, heart disease, and hypertension lower. By predicting how much lower, we can monetize the additional number of cases and associated health costs the region would see without active transportation infrastructure

## \$488 Million

Estimated Total Annual Physical Activity Health Savings for adults and seniors due to avoided health care expenditures and increased productivity



<sup>1</sup> <https://www.unm.edu/~lkravitz/Article%20folder/healthbenefitsaa.html>

### Environment and health-related case study references

Location	Theme	Case Study Results
U.S. National	Improved health	Benefits on health linked to social cohesion include both mental and physical effects. <sup>2 3</sup>
Denmark	Improved health	Study found that school pupils between the ages of 5 and 19 that biked or walked to school performed measurably better on tasks demanding concentration. <sup>4</sup>
Portland, OR	Improved health	Portland, OR, could see between \$388 and \$594 million in health cost savings attributable to new bicycle infrastructure and programs by 2040. Every \$1 invested in biking yields \$3.40 in health care cost savings. When the statistical value of lives is considered, every \$1 invested yields nearly \$100 in benefits. <sup>5</sup>
U.S. National	Impact of cleaner air – CO2 Reduction	A modest increase in biking and walking could save 3 billion gallons of gasoline and prevent the release of 28 million tons of CO2 per year. <sup>6</sup> The national value of CO2 reduction from the amount of avoided miles driven would be \$333 million, and could be over \$2.7 billion with a more substantial increase. <sup>7</sup>

<sup>2</sup> Kawachi, I. and Berkman, L. (2000). Social cohesion, social capital and health. In Social Epidemiology. L.F. Berkman and I. Kawachi. Oxford University Press: New York

<sup>3</sup> Putnam, R., Bowling alone: the collapse and revival of American community (2000), Simon and Schuster: New York

<sup>4</sup> <http://www.citylab.com/commute/2013/02/kids-whowalk-or-bike-school-concentrate-better-study-shows/4585/>

<sup>5</sup> Gotschi, T. (2011). Costs and Benefits of Bicycling Investments in Portland. Oregon Journal of Physical Activity and Health. 8(S1), S49-S58

<sup>6</sup> Active Transportation for America – The Case for Increased Federal Investment in Bicycling and Walking  
[http://www.railstotrails.org/resources/documents/whatwedo/atfa/atfa\\_20081020.pdf](http://www.railstotrails.org/resources/documents/whatwedo/atfa/atfa_20081020.pdf)

<sup>7</sup> Gotschi, T. & Mills, K. (2008). Active Transportation for America: The Case for Increased Federal Investment in Bicycling and Walking, Rails-to-Trails Conservancy. <http://www.railstotrails.org/atfa>

## Equity

Creating safer environments for the most vulnerable in society begins with those that cannot use motorized vehicles. In 2013, 4,735 people died as pedestrians on US roads and 743 people died as bicyclists.<sup>8</sup> Among these, seniors, children, low-income populations are disproportionately affected. Walking and biking are often the only modes of transportation that these demographic groups can independently use - in most communities, 20-40% of the population are unable to drive due to disability, low incomes, or age.<sup>9</sup> Therefore, creating safer environments should be a top priority for every community.

Assembly Bill 1358<sup>10</sup> (Complete Streets Act, 2008) requires that cities and counties plan for a balanced multi-modal transportation network that meets the needs of all users of streets, roads, and highways, including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation. This Act recognizes that roadways are used by multiple user types, not only motorized traffic, and that cities and regions should plan their network around all modes of transportation.

### Equity-related case study references

Location	Theme	Case Study Results
U.S. National	Social Cohesion	Reduced vehicular traffic can increase the likelihood of neighbourly interactions. Alongside this, pedestrians and bicyclists have greater opportunities to interact with their surroundings. <sup>11</sup> This is partially due to bicyclists and pedestrians having less to worry about when biking or walking with the motorized network, allowing them instead to enjoy their surroundings and communicate with other road users.
U.S. National	Social Impacts	Benefits on health relating to transportation infrastructure can be linked to social cohesion, and includes both positive mental and physical effects. <sup>12 13</sup>
U.S. National	Reducing effect of motorized infrastructure	Motorized networks can cause severance between communities, these impacts can effect different groups of people more, for example the elderly and disabled. <sup>14</sup> Studies have shown that busy roads can affect walkability, where pedestrians are restricted to only one side of the road.

<sup>8</sup> Fatality Analysis Reporting System, 2013

<sup>9</sup> <http://www.vtpi.org/nmt-tdm.pdf>

<sup>10</sup> [ftp://www.leginfo.ca.gov/pub/07-08/bill/asm/ab\\_1351-1400/ab\\_1358\\_bill\\_20080930\\_chaptered.pdf](ftp://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_1351-1400/ab_1358_bill_20080930_chaptered.pdf)

<sup>11</sup> Appleyard, D. Livable Streets. (1981). University of California Press: Berkeley

<sup>12</sup> Kawachi, I. and Berkman, L. (2000). Social cohesion, social capital and health. In Social Epidemiology. L.F. Berkman and I. Kawachi. Oxford University Press: New York

<sup>13</sup> Putnam, R., Bowling alone: the collapse and revival of American community (2000), Simon and Schuster: New York

<sup>14</sup> Hine, J. and Russell, J. (1996). The impact of traffic on pedestrian behaviour: assessing the traffic barrier on radial routes. Traffic Engineering and Control, 2: p. 81-85.