

A Complete Streets Law for Baltimore: A Design Solution to a Transportation Crisis

Abstract

The design of Baltimore City's streets causes crashes, increased congestion, and deters biking, walking, and transit use. These negative impacts disparately affect communities of color and perpetuate structural racism.

Currently, Baltimore City has a complete streets resolution that is non-binding and is thus effectively ignored. A complete streets law for Baltimore City would require transportation projects to design for all modes, users, and activities, rebalancing our transportation system for equitable urban development and growth by reducing congestion and increasing safety.

A complete streets approach to street design is a cornerstone policy for equitable transportation and development in an urban place. Policies such as transit improvement or zoning reform cannot be as successful without a strong complete streets law.

A complete streets law would **improve safety, reduce congestion, and improve conditions for those who already walk, bike, and take transit**, and by doing so, increase use of those transportation modes. There is pent up demand to shift to non-automobile modes if only street design would allow for it. Shifting some automobile traffic to walking, biking, or transit has multiple health, economic, and transportation benefits.

I. What is Complete Streets?

Complete streets is a transportation philosophy that calls for designing and building streets that are optimal for all road users regardless of age, ability, income, race, ethnicity, or chosen mode of travel. Complete streets policies generally produce streets that have the following features:

- Traffic calming and lower maximum speeds
- Pedestrian improvements
- Bike lanes and paths
- Bus lanes and improved bus infrastructure (including bus shelters)
- Landscaping and other aesthetic/place-making improvements
- Improved connections between modes (i.e. good pedestrian infrastructure connected to transit facilities)
- Consideration of local land use (i.e. industrial, urban core, Main Street, mixed-use,

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residential, etc.)

Complete streets in historic places may reverse changes made during the automobile age, where, for example, sidewalks, center medians, or public transit infrastructure were reduced or eliminated to accommodate wider and faster roads for cars.

Putting a complete streets policy into law sets clear and predictable expectations for the transportation system that can be relied on by stakeholders including citizens, developers, institutions, transit providers, and other government jurisdictions.

A Key Policy for Equitable Urban Growth

Complete streets policies generally support equitable urban transportation and development. A successful policy depends on the integration of complete streets with other policy reforms, including improved alternative transportation offerings, urban infill development, adaptive reuse, zoning reform, smart growth/transit-oriented development, and parking and transportation demand management.

A National Issue

Increasing attention is given to complete streets as a nationwide priority. In January 2015, USDOT Director Anthony Foxx challenged the nation's mayors to advance safety and accessibility goals by using Complete Streets.¹ In September 2015, the Surgeon General issued a Call to Action for active transportation to reduce chronic disease through designing walkable places.²

II. Key Benefits of Complete Streets

In urban jurisdictions like Baltimore City, a tradeoff in favor of nonautomotive modes often does the most good for the largest amount of people. In Baltimore City, 30.6% of households have no access to a car, and that number can reach as high as 71.6% (Oldtown/Middle East).³ In every historically red-lined,⁴ majority African-American community in east and west Baltimore City, the number of households with no vehicle access is greater than

¹ Schmitt, A. (2015, January 23). Anthony Foxx Challenges Mayors to Protect Pedestrians and Cyclists. Retrieved from <http://usa.streetsblog.org/2015/01/23/secretary-foxx-challenges-mayors-to-protect-cyclists-and-pedestrians/>

² Scutti, S. (2015, September 14). Surgeon General's Call to Action on Walking: 'Even A Small Bit Of Activity Can Make A Big Difference'. Retrieved from <http://www.medicaldaily.com/pulse/surgeon-generals-call-action-walking-even-small-bit-activity-can-make-big-difference-352444>

³ Percent of Households with No Vehicles Available. (2014). Retrieved from <http://bniajfi.org/indicators/Sustainability/novhcl/>

⁴ "Red-lined" or "red-lining" refers to a practice of denying basic home financing products and incentives to predominantly Black homebuyers based on housing market classifications made by the Home Owners Loan Corporation in 1937 which considered factors such as neighborhood racial composition.

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50%.⁵

Looking citywide, average vehicle ownership per household is low in Baltimore City at 1.1.⁶ By contrast, across the United States, 9.2% of households do not have access to a car, and the average number of vehicles owned is 1.8.⁷

Promoting Racial Equity/Environmental Justice

The fatality rate for African-American and Latino bicyclists is 30% and 23% higher respectively compared to White cyclists.⁸ African American and Latino pedestrians have a fatality rate 60% and 43% higher, respectively, than White pedestrians.⁹

Changes to Baltimore City's roads in the 20th century improved access by car from new mostly white suburbs to the central business district at the expense of quality of life in urban communities with higher percentages of persons of color. Given the racial segregation between the city and suburbs and the higher proportion of minorities without access to a vehicle, this barrier is a clear example of structural racism. In Baltimore today, only 34.6% of total jobs are held by Baltimore residents,¹⁰ and Baltimore experiences net in commutation of 76,546 people.¹¹ By prioritizing needs of suburban commuters by car over those of city commuters by transit, bikes, or walking, existing policy poses a barrier to employment and costs the city lost tax income.

While not a panacea, complete streets can play a crucial role in rebuilding disinvested, historically red-lined urban communities, and improving incomes and access to opportunity and amenities for residents of those neighborhoods.

⁵ According to the Baltimore Neighborhood Indicators Alliance data on vehicle access, there are 8 Baltimore City community statistical areas (CSAs) where greater than 50% of households do not have access to a vehicle. With the exception of Cherry Hill, an African-American community created post-World War II, these Baltimore CSAs correspond exactly to East and West Baltimore's historically red-lined communities as established in 1937 by the Home Owners Loan Corporation. The CSAs are as follows: Cherry Hill, Greenmount East, Madison/East End, Oldtown/Middle East, Poppleton/Terraces/Hollins Market, Sandtown-Winchester/Harlem Park, Southwest Baltimore, Upton/Druid Heights.

⁶ Car Ownership in U.S. Cities Map. Retrieved from <http://www.governing.com/gov-data/car-ownership-numbers-of-vehicles-by-city-map.html>

⁷ Car Ownership in U.S. Cities Map. Retrieved from <http://www.governing.com/gov-data/car-ownership-numbers-of-vehicles-by-city-map.html>

⁸ The League of American Bicyclists and the Sierra Club. (2013). *The New Majority: Pedaling Towards Equity*, 2. Retrieved from http://bikeleague.org/sites/default/files/equity_report.pdf

⁹ Smart Growth America and National Complete Streets Coalition. (May 2014). *Dangerous by Design*, 20. Retrieved from <https://www.smartgrowthamerica.org/app/legacy/documents/dangerous-by-design-2014/dangerous-by-design-2014.pdf>

¹⁰ Maryland Department of Planning. (August 2012). Chart 3. Percent of Jobs Held by Jurisdiction Residents – 2010. Retrieved from http://planning.maryland.gov/MSDC/Commutation/LEHD_2010/chart3.pdf

¹¹ Maryland Department of Planning. (August 2012). Table 2A. JOURNEY-TO-WORK COMMUTATION SUMMARY FOR MARYLAND'S JURISDICTIONS – 2010. Retrieved from http://planning.maryland.gov/MSDC/Commutation/LEHD_2010/table2a.pdf

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Improving Public Health/Safety

Complete streets reduce the number and severity of traffic crashes. The complete streets philosophy emphasizes that most traffic crashes are preventable through improved street design which reduces dangerous behavior and reduces conflicts between road users.

Though Baltimore City's population is 10.3% of state population, 17% of statewide traffic-related pedestrian injuries and 30% of all statewide pedestrian crashes occur here.¹² On average, 20,035 traffic crashes occur each year in Baltimore City and approximately 31 per year result in fatalities.¹³ In Maryland, the rate of crashes per million vehicle miles traveled (VMT) is 1.6. In Baltimore City, the rate is 5.9 crashes per million VMT, approximately 370% the statewide rate. Baltimore's traffic fatality rate is approximately 40% higher than that of New York City.¹⁴

Complete streets are especially important for vulnerable road users such as school children, older adults, and persons with disabilities. The Safe Routes to Schools program recognizes especially the importance of a complete streets approach on roads and streets permitting access to schools.¹⁵ The AARP has made complete streets a chief priority.¹⁶

Complete streets also encourage active transportation (walking or biking, including to a transit stop), meaning a greater chance of meeting the recommended level of physical activity that is proven to reduce chronic disease, the leading cause of death in America.¹⁷ The public health cost of physical inactivity is estimated at between \$24-76 billion annually, or approximately 2.4-5% of national healthcare expenditures.¹⁸

Finally, there is evidence that streets designed for safer and calmer traffic correlate with a greater sense of community and the ownership of the street by pedestrian and neighborhood life, leading

¹² Baltimore City Department of Transportation. (2015 February 11). Baltimore Strategic Transportation Safety Plan. 3. Retrieved from

<https://gbc.org/wp-content/uploads/2015/02/Baltimore-City-Strategic-Transportation-Safety-Plan-021115.pdf>

¹³ Maryland Highway Safety Office. Statewide Crash Summary. (July 25, 2014). Retrieved from

http://www.mva.maryland.gov/safety/_docs/StatewideBR-12Aug12-13.pdf

¹⁴ Baltimore City's traffic fatality rate is approximately 5 per 100,000 (31 fatalities per 622,000 population)

¹⁵ Safe Routes to School National Partnership. Complete Streets: Making Roads Safe for All Users. Retrieved from <http://saferoutespartnership.org/state/bestpractices/completestreets>

¹⁶ AARP. (2009). Planning Complete Streets for an Aging America. Retrieved from <http://assets.aarp.org/rgcenter/ppi/liv-com/2009-12-streets.pdf>

¹⁷ Roux, L., et. al. (December 2008). *Cost Effectiveness of Community-Based Physical Activity Interventions*. American Journal of Preventative Medicine. 35(6). Pp. 578-588. Retrieved from [http://www.ajpmonline.org/article/S0749-3797\(08\)00770-8/fulltext](http://www.ajpmonline.org/article/S0749-3797(08)00770-8/fulltext)

¹⁸ Roux, L., et. al. (December 2008). *Cost Effectiveness of Community-Based Physical Activity Interventions*. American Journal of Preventative Medicine. 35(6). Pp. 578-588. Retrieved from [http://www.ajpmonline.org/article/S0749-3797\(08\)00770-8/fulltext](http://www.ajpmonline.org/article/S0749-3797(08)00770-8/fulltext)

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to a reduction in rates of crime.¹⁹ In one instance in Dayton, OH, traffic calming measures (coupled with a homeownership program) resulted in a 25-50% reduction in neighborhood crime.²⁰ Similarly, where neighborhoods participate in a collaborative planning process, there is further evidence that crime rates are reduced, by as much as 40%.²¹

Reducing Congestion and Commute Times

Baltimore has the 6th longest commute time²² even though its population ranking is much lower (21st).²³ Our transportation system focuses on high maximum travel speeds via a hierarchical road system. This type of system is prone to traffic delays and congestion at peak times, negating the benefits of higher speeds. Complete streets reduce maximum speeds but also reduce congestion and overall travel times by smoothing the flow of traffic and shifting a portion of trips to other modes like walking, biking, or transit.

Overall, the current transportation system maximizes congestion and traffic delay. In Maryland, approximately 50% of all traffic delay is non-recurring, related to traffic incidents such as crashes that close intersections and divert traffic.²⁴ A high proportion of U.S. trips that are seemingly too short to justify driving are nevertheless made in an automobile, reflecting, in part, uninviting road conditions for walking or biking. 50% of trips are 3 miles or less, and 28% are 1 mile or less, distances across which biking, walking, or transit is more convenient than using an automobile.²⁵ However, without complete streets, more drivers choose to stay in their cars. 60% of U.S. trips 1 mile or less are driven.²⁶ Additionally, traffic delay in dense, destination rich areas is often caused by drivers simply “cruising” and looking for parking.²⁷

¹⁹ The work of urban writers and theorists like Jane Jacobs and Donald Appleyard has examined the connection between public safety and pedestrian and neighborhood life. See Pedestrian and Bicycle Information Center. PBIC Case Study – Ohio, Florida & Virginia. Traffic Calming and Crime Prevention. Retrieved from <http://www.pedbikeinfo.org/cms/downloads/ENG.TrafficCalmingandCrimePrevention.pdf>.

²⁰ Pedestrian and Bicycle Information Center. PBIC Case Study – Ohio, Florida & Virginia. Traffic Calming and Crime Prevention. Retrieved from <http://www.pedbikeinfo.org/cms/downloads/ENG.TrafficCalmingandCrimePrevention.pdf>.

²¹ Pedestrian and Bicycle Information Center. PBIC Case Study – Ohio, Florida & Virginia. Traffic Calming and Crime Prevention. Retrieved from <http://www.pedbikeinfo.org/cms/downloads/ENG.TrafficCalmingandCrimePrevention.pdf>.

²² As determined by Associated Press analysis of 2013 ACS data. See Marbella, J. (2015 June 28). Baltimoreans face one of the nation’s longest commutes. Retrieved from <http://www.baltimoresun.com/news/maryland/bs-md-commuter-woes-20150628-story.html#page=1>

²³ Bureau of Economic Analysis. (2016). Baltimore-Towson-Columbia, MD (MSA). Retrieved from <http://bea.gov/regional/bearfacts/pdf.cfm?fips=12580&areatype=MSA&geotype=4>

²⁴ 2013 Maryland State Highway Mobility Report. (2013). III-1. Retrieved from http://sha.maryland.gov/OPPEN/2013_Maryland__Mobility.pdf

²⁵ National Household Travel Survey Short Trips Analysis. Retrieved from http://www.bikeleague.org/sites/default/files/2009_NHTS_Short_Trips_Analysis.pdf

²⁶ National Household Travel Survey Short Trips Analysis. Retrieved from http://www.bikeleague.org/sites/default/files/2009_NHTS_Short_Trips_Analysis.pdf

²⁷ Shoup, D. (Spring 2007). *Cruising for Parking*. Access Magazine (30) pp. 17-22. Retrieved from <http://shoup.bol.ucla.edu/CruisingForParkingAccess.pdf>

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With so many trips already taken at distances seemingly ideal for biking or walking, poor street design stands as a primary barrier to increased use of those modes, because people will decline to use streets that feel uncomfortable or unsafe for biking or walking. A recent survey of protected bike facilities built around the country found an increase of 21 to 71% in ridership after installation of those facilities.²⁸

Research indicates that any place with more than 100,000 persons and 30,000 jobs is no longer able to realistically accommodate transportation by automobile only.²⁹ Automobile trips take more road space than any other mode, and take more space as speeds increase. Any trip that can be either slowed down or diverted to a different mode therefore increases the efficiency of the transportation system.

Complete streets also improve operation of public transit. Commute time by transit or otherwise is the leading indicator of likelihood to escape from poverty.³⁰ While Baltimore's automobile commute is high at an average of 27 minutes,³¹ the average transit commute is extremely high at 50 minutes.³² The average transit commute in Baltimore is 5 minutes higher than the benchmark for a livable commute of 45 minutes.³³

Making Housing and Transportation More Affordable

Housing and transportation costs are the two largest costs for households and deeply connected to poverty and opportunity. The average annual cost of owning and operating a single vehicle is \$8,696, or \$6,729³⁴ or 15-20% of median household income in Baltimore City. The Federal Highway Administration's Livability Initiative found that due to reduced vehicle ownership but also shorter travel distances, households in "location-efficient", i.e., urban, places spend 9% of income on transportation but in auto-dependent places that number jumps to 25%. A

²⁸ National Institute for Transportation and Communities. (June 2014). *Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S.* 6. Retrieved from http://ppms.trec.pdx.edu/media/project_files/NITC-RR-583_ProtectedLanes_FinalReport.pdf

²⁹ Litman, T. (24 August 2015). *Evaluating Complete Streets: The Value of Designing Roads for Diverse Modes, Users and Activities.* 3. Retrieved from <http://www.vtpi.org/compstr.pdf>

³⁰ Chetty, R., Hendren, N., (April 2015). *The Impacts of Neighborhoods on Intergenerational Mobility, Childhood Exposure Effects and County-Level Estimates.* Retrieved from

http://www.equality-of-opportunity.org/images/nbhds_exec_summary.pdf. Bouchard, M. (2015 May 7).

Transportation Emerges as Crucial to Escaping Poverty. Retrieved from

http://www.nytimes.com/2015/05/07/upshot/transportation-emerges-as-crucial-to-escaping-poverty.html?_r=2

³¹ Transportation to Work by Selected Characteristics, Baltimore City, Maryland, American Community Survey 5-Year Estimates, Table S0802, 2011-2015 Data.

³² Transportation to Work by Selected Characteristics, Baltimore City, Maryland, American Community Survey 5-Year Estimates, Table S0802, 2011-2015 Data.

³³ Stutzer, A., Frey, B., *Stress That Doesn't Pay: The Commuting Paradox.* Retrieved from <https://ideas.repec.org/p/zur/iewwpx/151.html>

³⁴ American Automobile Association. (2015). *Annual Cost to Own and Operate a Vehicle Falls to \$8,698, Finds AA.* Retrieved from <http://newsroom.aaa.com/2015/04/annual-cost-operate-vehicle-falls-8698-finds-aaa-archive/>

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transportation system with complete streets is key to unlocking these savings.

Furthermore, parking is a major hidden cost, because parking spaces are usually provided at free or low cost to the user and paid for externally, as part of an increased price of rent or goods and services provided at a location. While it may seem like an insignificant cost, the median cost of a single parking space in Baltimore is \$17,742 (93.2% of the national average).³⁵ The median cost of a structure containing 200 spaces would therefore be \$3.44 million. The national average construction cost per space for underground structures is twice as high, at \$34,000 per space.³⁶ Even a surface lot parking space costs between \$5,000-10,000 to construct. A complete streets policy reduces the need for parking and therefore eliminates those costs.

More Jobs and Opportunity in Baltimore City

Lowering transportation costs increases discretionary income that is then spent in the local economy. Approximately 73% of money spent on gasoline and 86% of money spent purchasing a car immediately leaves the local economy.³⁷ Because of this there is a high likelihood of retaining more money in the local community if car-related expenses are reduced. If the Baltimore City households owning cars could all reduce to become one-car households, the total amount of new discretionary income freed up (based on the average cost reported by AAA) would be \$855,126,811.

Complete streets have been shown to increase property values,³⁸ which in part reflects capturing the value to a resident of greatly decreased transportation expense. A recent study found that of ten complete streets projects reporting before and after data, 8 demonstrated property value increases. Of 6 projects analyzed in comparison to nearby unimproved corridors or citywide growth rates, 4 outperformed those measures, indicating a clear increase in property values occurring as a specific result of the complete streets improvement.³⁹

Further, complete streets support greater employment, new business creation, and private investment in commercial areas nearby complete streets projects, and, by increasing pedestrian

³⁵ Victoria Transport Policy Institute. (2017). *Transportation Cost and Benefit Analysis*. Page 5.4-6. Retrieved from <http://www.vtpi.org/tca/tca0504.pdf>. See also Carl Walker (2016), *Mean Construction Costs*, Carl Walker Consulting (www.carlwalker.com), retrieved from <http://www.carlwalker.com/wp-content/uploads/2016/05/2016-Carl-Walker-Cost-Article.pdf>

³⁶ Victoria Transport Policy Institute. (2017). *Transportation Cost and Benefit Analysis*. Page 5.4-6. Retrieved from <http://www.vtpi.org/tca/tca0504.pdf>.

³⁷ CEOs for Cities. (April 2010). *New York City's Green Dividend*. Retrieved from http://www.nyc.gov/html/dot/downloads/pdf/nyc_greendividend_april2010.pdf

³⁸ National Complete Streets Coalition and Smart Growth America. (March 2015). *Safer Streets, Stronger Economies*. 21. Retrieved from <https://www.smartgrowthamerica.org/app/legacy/documents/safer-streets-stronger-economies.pdf>

³⁹ National Complete Streets Coalition and Smart Growth America. (March 2015). *Safer Streets, Stronger Economies*. 21. Retrieved from <https://www.smartgrowthamerica.org/app/legacy/documents/safer-streets-stronger-economies.pdf>

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and bike traffic, increase commercial activity in existing corridors by as much as 96%.⁴⁰ Studies have found that shoppers who arrive in commercial corridors by foot or by bike tend to spend more at local businesses than shoppers arriving by car.⁴¹

Complete streets projects create more jobs per transportation dollar spent. A study found that in Baltimore, pedestrian and bicycle infrastructure projects create 11-14 jobs per \$1 million dollars spent, with an employment multiplier of 1.9 (or 0.9 jobs indirectly created or induced per directly created job).⁴² Spending just \$50 million, the projected cost to widen one mile of Boston Street in Canton⁴³, on bicycle and pedestrian infrastructure would create between 550-700 total jobs, approximately twice the amount created through traditional road construction and reconstruction projects.⁴⁴ As a further contrast, the Maryland Avenue protected cycle facility will cost \$700,000 for approximately 2.6 miles of bidirectional protected lanes. For the cost of one mile of road widening in the City, 185 miles of high-quality bi-directional protected facilities could be added citywide.

Given the increase in jobs per transportation dollar associated with complete streets, a workforce development program could be implemented in conjunction with complete streets legislation to prepare City residents for those jobs, patterned, for example, on the Department of Public Works' Water Mentor Program.⁴⁵

Restoring the Street as Public Space

The traditional transportation planning paradigm primarily recognizes streets as conduits for automobile traffic. However, the following are also critical uses for streets: (1) commercial activities (shops and vendors), (2) recreation and socializing, (3) community cohesion, (4) aesthetics, and (5) living and working (i.e., street is a factor in the quality of life of those living

⁴⁰ National Complete Streets Coalition and Smart Growth America. (March 2015). *Safer Streets, Stronger Economies*. 19-23. Retrieved from

<https://www.smartgrowthamerica.org/app/legacy/documents/safer-streets-stronger-economies.pdf>

⁴¹ Transportation Alternatives. (2012) *East Village Shoppers Study*. Retrieved from

https://www.transalt.org/sites/default/files/news/reports/2012/EV_Shopper_Study.pdf; Toronto Centre for Active Transportation and Clean Air Partnership. (2010) *Bike Lanes, On-Street Parking & Business, Year 2 Report: A Study of Bloor Street in Toronto's Bloor West Village*. Retrieved from

http://www.tcat.ca/wp-content/uploads/2016/08/BikeLanes_Parking_Business_BloorWestVillageNewCover.pdf;

⁴² Garrett-Peltier, H. (June 2011). *Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts*. Retrieved from http://bikeleague.org/sites/default/files/PERI_Natl_Study_June2011.pdf

⁴³ Sabra, Wang & Associates, Inc. and Baltimore City Department of Transportation, Southeast Strategic Transportation Vision: Baltimore City MD. Page 40 (August 2016) available at

<http://transportation.baltimorecity.gov/sites/default/files/Southeast%20Strategic%20Transportation%20Vision%20Final%20August%202016.pdf>

⁴⁴ By contrast the Boston Street widening project will produce closer to 350 total jobs. Garrett-Peltier, H. (June 2011). *Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts*. Retrieved from http://bikeleague.org/sites/default/files/PERI_Natl_Study_June2011.pdf

⁴⁵ DPW Celebrates 2016 Water Mentoring Program Participants. (2016 November 21). Retrieved from

<http://publicworks.baltimorecity.gov/news/press-releases/2016-11-21-dpw-celebrates-2016-water-mentoring-program-participants-training-new>

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and working on it).⁴⁶ Public art and local culture play important roles in these factors that go beyond street design to consider the socioeconomic context of the street.

While complete streets policies alone cannot rebuild an urban community that has suffered from disinvestment, the reference frame of the street as public space shows how street design links with other policies and programs such as small business development, public safety, or Main Street programs.

III. Cost of Complete Streets

The cost question requires first understanding that traditional road design is “incomplete”, failing to serve the percentage of taxpaying road users who do not rely primarily or exclusively on a personal automobile for transportation, as stated above, as high as 71.6% in some City communities.

Since a complete streets policy incorporates complete streets elements into baseline transportation projects that would occur anyway, simply changing the parameters of the existing project, the true cost question is: how much will the complete streets elements increase the overall project budget? The answer is not much, normally about 3-5%.⁴⁷

Complete streets elements can range from no or extremely low cost (reprogramming traffic signals for pedestrian-friendly signal timing) to moderate cost (building a concrete bus “bulb out” to improve transit operation and pedestrian safety). Complete streets does not mean substantial new infrastructure on each street, but in most cases involves low cost measures to reprogram how the street is used. For example, pedestrian improvements at a single intersection involving paint and bollards can cost as little \$4,500.⁴⁸

A recent study found that in Charlotte, a city that adopted an award winning complete streets policy, the normal fluctuation in construction costs affected transportation project budgets more than new complete streets elements incorporated into the budget as a result of the complete streets policy.⁴⁹

Additionally, the cost of complete streets elements are usually offset to a degree by reducing expenditures on traditional elements of a transportation project. For example, in Charlotte,

⁴⁶ Litman, T. (24 August 2015). *Evaluating Complete Streets: The Value of Designing Roads for Diverse Modes, Users and Activities*. 21. Retrieved from <http://www.vtpi.org/compstr.pdf>

⁴⁷ Terry Moore and Phillip Taylor, ECONorthwest. *Economic Impacts of Complete Streets*. (2013 August) 13. Retrieved from <https://sccrtc.org/wp-content/uploads/2013/08/2013-complete-streets-whitepaper.pdf>.

⁴⁸ Data refers to a project done at 50th and University Avenue in San Diego. Smart Growth America. *Complete Streets: Guide to Answering the Costs Question*. () 8. Retrieved from <https://www.smartgrowthamerica.org/app/legacy/documents/cs/resources/cs-answering-the-costs-question.pdf>.

⁴⁹ James Shapard, P.E., Charlotte Department of Transportation. *Do Complete Streets Cost More than Incomplete Streets?* (2012 August 1). Retrieved from <http://njbikeped.org/wp-content/uploads/2013/02/4-Do-Complete-Streets-Cost-More-than-Incomplete-Streets.pdf>.

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reducing lane widths by 1 foot offset some cost of adding a wider sidewalk and bike lanes, such that those complete streets elements only increased the project budget by 5%.⁵⁰ For example, when a section of roadway is replaced by bike lane, that portion can be built to carry the weight of cyclists, rather than road vehicles, allowing a reduction in materials and labor cost. By contrast, materials cost can vary by 15-20% each year as a result of normal variation in construction material costs.

While the many benefits of complete streets have been discussed in more detail above, some efforts have been made to capture the direct relationship between spending on complete streets elements and dividends in economic, environmental, health, and other benefits. One such study found that relationship was \$4-5 of value created for every \$1 spent on bicycle networks.⁵¹

IV. Best Practices: National Complete Streets Coalition Best Practices: 10 Streets Policy Elements

In 2003 Barbara McCann came up with the complete streets concept and organized a task force to attempt to get this kind of language into the federal transportation bill. In 2006 her task force became the National Complete Streets Coalition (NCSC). In 2012 NCSC became an official program of Smart Growth America.

NCSC maintains a scoring system for policies which assigns points based on ten ideal elements that policies should have. In 2015, Reading, PA passed the first ever policy (out of hundreds that have been scored) to score a perfect 100. To achieve 100 points, the scoring methodology requires jurisdictions to go beyond street design and engineering to consider the broader socioeconomic context of the street.

1. **Vision** – The policy should contain a clear statement why are we doing this. Include “shall” and “must” and contain no equivocating language.
2. **All Users and Modes** – The policy should specify that the goal is to accommodate all road users and transportation modes (including all ages, abilities, etc.).
3. **All Projects and Phases** – The policy affects all projects and all phases of projects.
4. **Clear, Accountable Exceptions** – High level official accountable for these decisions. Philadelphia and other jurisdictions have a Complete Streets coordinator who acts as champion and possibly also provides greater accountability for exceptions.
5. **Network Approach** – Recognize need to create a comprehensive, integrated, connected network for all transportation modes and increase street connectivity.
 - Street connectivity refers to the walkability and/or human scale of the street grid— i.e., are streets more like Fells Point (small blocks, many connections to adjacent streets, walkable) vs. MLK Boulevard (super blocks, few connections, hard to

⁵⁰ James Shapard, P.E., Do Complete Streets Cost More than Incomplete Streets? (2012 August 1). 5 Retrieved from <http://njbikeped.org/wp-content/uploads/2013/02/4-Do-Complete-Streets-Cost-More-than-Incomplete-Streets.pdf>.

⁵¹ Alliance for Bicycling and Walking. Bicycling and Walking in the United States: 2012 Benchmarking Report. (2012). Washington, DC: Alliance for Bicycling and Walking.

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navigate if not in car).

6. **Jurisdiction** – Involve all other jurisdictions affected by policy or who will need to interpret it.
 - o In Baltimore this includes especially MDOT/MTA, SHA, and the MPO (Baltimore Regional Transportation Board).
7. **Design** – Use latest and best design criteria while recognizing need of some flexibility on a case-by-case basis depending on context and community needs.
8. **Context Sensitivity** – Consider buildings, land use, transportation, and community needs – consider current and planned context.
9. **Performance Measures** – The policy should include measurable outcomes.
10. **Implementation Steps** – Clear next steps for implementation.⁵²

V. Existing Complete Streets Laws or Policies Affecting Baltimore

Federal level: The FAST Act (the surface transportation bill) passed in December 2015 for the first time contains formal language on complete streets.

Regional level: Baltimore Metropolitan Council and/ or the metropolitan planning organization (MPO), the Baltimore Regional Transportation Board (BRTB) has no policy. Regional policies can specify that federal funds passing through an MPO must be used for projects having a complete streets component or approach. Washington Council of Governments does have a policy passed in 2012.

State level: State level policies can similarly specify how funding is to be used and also specify design guidelines. In Maryland NCSC recognizes two complete streets policies: MD Transportation Code Title 2, Subtitle 602, and MD SHA Complete Streets policy (an internal agency policy).

Local level: Existing Baltimore City Complete Streets Resolution

VI. What are we trying to accomplish in Baltimore?

Baltimore's complete streets council resolution was a good step, but is non-binding and is therefore effectively ignored. The complete streets concept is now widespread and mainstream, but has only recently begun to mature as the effectiveness of the first generation of policies are only now being analyzed.

A complete streets law for Baltimore City should set a new standard by incorporating best practices and coming up with unique and creative solutions in areas where model best practices have not yet been established. It should be a model city policy that goes beyond street design to represent a commitment to an integrated, context-sensitive transportation network made of

⁵² National Complete Streets Coalition (2012) *Complete Streets Local Policy Workbook*. Retrieved from <https://smartgrowthamerica.org/resources/complete-streets-local-policy-workbook/>

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streets that serve as public spaces belonging to the people. This could include place making, culture and public art components.

To pass and implement this law requires a broad coalition of stakeholders to not only craft the policy but establish a political interest coalition that can monitor implementation and fight for progress on related policies. To develop the best possible policy for Baltimore, the greatest possible attention should be given to integration of the complete streets law with supporting policies.