

**Finding the best sustainable transportation alternatives at the redevelopment of the Ford Twin Cities assembly factory site in Saint Paul, MN** - The professional economists at Impact Infrastructure (the makers of Autocase®) calculated the environmental, social, and economic benefits of the sustainable transportation and public realm options for a 21<sup>st</sup> Century Community.



Site of the Ford Twin Cities Assembly Plant - Source [Google Maps](#)

**Challenge: The City of Saint Paul wants to create a new world class community on the banks of the Mississippi. Sustainability promotes resiliency for the community and quality of life for its residents. But superior amenities can be expensive. What is the optimal shade of green?**

The redevelopment of Ford's former Twin Cities Assembly Plant on 135 acres of land situated along the Mississippi River is a major project for the City of Saint Paul. The city needed to evaluate potential transportation planning and public realm alternatives. Beyond the basics, a site plan with high sustainability was also developed that included:

- Increased transit service frequency;
- Increased intersection density for pedestrians;
- enhanced bike infrastructure;
- shared parking and parking fees;
- free employee transit program; and,
- additional transportation demand management programs such as dedicated employee transportation coordinator, ride/carpool matching, and guaranteed ride home, etc.).

“The vision for the site is a connected, livable, mixed-use neighborhood that looks to the future with clean technologies and high quality design for energy, buildings and infrastructure. This site will be woven into the existing community, and support walking, biking and transit, and provide services, jobs and activities that every generation can enjoy”- The City of Saint Paul [Ford Site: A 21st Century Community](#).

**These enhanced scenarios provide benefits and costs across multiple categories and stakeholders. How can the City combine financial cost, safety, environmental, mobility, pollution, and health effects in its decision-making?**

Risk-adjusted economic triple bottom line cost benefit analysis (TBL-CBA) business cases deliver a method to help decide on sustainability scenarios. The results can also help stakeholders understand “What’s in it for me?”

A holistic TBL-CBA business case for enhanced transportation at the St. Paul Ford site meant that the cost of higher sustainability could be objectively assessed.

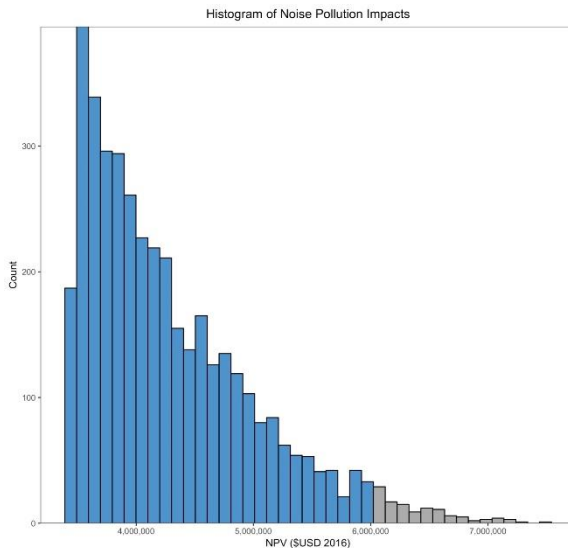
Transportation planning affects all aspects of a neighborhood. Transit and active transportation can reduce congestion, pollution, noise, and carbon emissions. It can also provide low income families with access to more jobs, healthcare, and food options. A better public realm and healthier, safer transportation can improve the quality of life.

A comprehensive and holistic approach to measuring the environmental and social benefits of enhanced transportation at the St. Paul Ford site meant that the cost of higher sustainability could be objectively assessed.

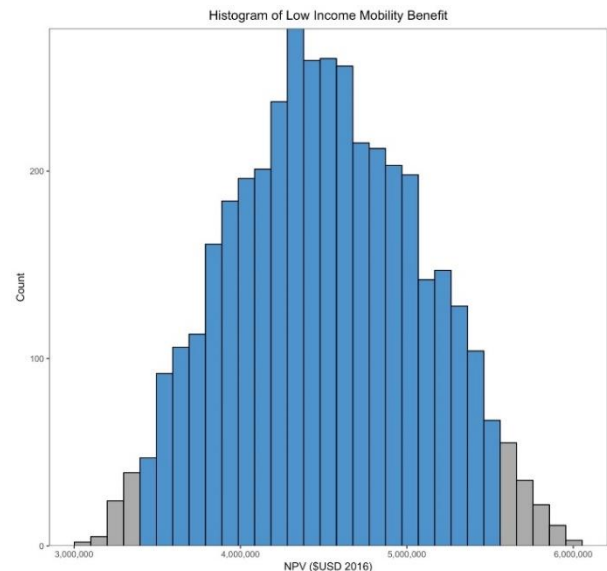
Using Monte Carlo simulation of the risk associated with the costs and benefits the Autocase consulting team was able to advise the City on the the confidence to be placed in the results.

**Solution: The economists at Impact Infrastructure built risk-adjusted economic business cases to assess the entire range of sustainability benefits.**

Impact
Low Income Mobility Benefit
Value of Travel Time Savings - Trip Model
Value of Congestion Reduction
Environmental Value of Trees
Ownership - Operating Vehicle Costs
Avoided Road Facilities Costs
Mobility Value of Active Transportation Infrastructure
Health Value of Active Transportation
Reduced Accident Benefit
Noise Pollution Impacts
Air Pollution Impacts
GHG Impacts
Pedestrianization Benefit
Public Realm Amenity Benefit
Capital and Replacement Costs
Operating and Maintenance Costs, and Fare Revenue
Residual Value



**Results: The high sustainability alternative generates between \$50 million and \$90 million in net benefits – a cost benefit ratio of 1.8 to 3.8 - relative to the base case.**



**Autocase: Making the business case for infrastructure projects.**



Autocase Consulting from Impact Infrastructure, Inc.

A complex project can be both costly and time consuming. Why not have our experienced economists take some of that burden off of you and run the analysis for you? Our breadth of service includes: Triple Bottom Line and Cost Benefit Analysis; Financial and Life Cycle Cost Analysis; Economic Impact Analysis; Risk and Cost Risk Analysis; Sustainable Return on Investment; and Cross Asset Strategic Planning – all across a wide range of sectors.

For more information about how TBL-CBA would assist your project, go to [www.autocase.com](http://www.autocase.com)