



Autocase Economic Advisory
Economic consulting stream of Autocase

Miami-Dade County's Dolphin Station Park-And-Ride Transit Terminal Facility

Envision LD3.3 Life Cycle Economic Evaluation

CLIENT

Miami-Dade County



LOCATION

Miami-Dade County, Florida

OVERVIEW

The Dolphin Station Park-and-Ride/Transit Terminal Facility is a key mobility hub at the intersection of the Homestead Extension of Florida's Turnpike (HEFT) and NW 12th Street. Strategically located to support the Miami-Dade Transit (MDT) SR 836 Express Bus Service, the facility connects employment centers, retail destinations, and communities, while easing congestion and improving air quality. Opened in March 2020, it also lays the foundation for future multimodal transit, including a potential commuter rail station on the CSX line.

The project reflects Miami-Dade County's commitment to sustainable infrastructure and urban mobility. It aligns with the Strategic Miami Area Rapid Transit (SMART) Plan, the People's Transportation Plan (PTP), and the 2045 Long Range Transportation Plan (LRTP). After a rigorous review by the Institute for Sustainable Infrastructure, the facility earned the Envision® Bronze Award.

CHALLENGE

Miami-Dade County needed to develop a transit facility that could simultaneously address traffic congestion, support rapid transit expansion, and advance regional sustainability goals. The project had to balance convenience, cost-effectiveness, and environmental responsibility to serve as a model for future infrastructure.

01

CHALLENGE

To meet Envision credit LD3.3, the project needed to assess the financial, social, and environmental impacts of the station's influence on mode shifting and multimodal integration.

02

SOLUTION

Autocase quantified and monetized financial savings, reduced private vehicle use and congestion, carbon and noise pollution reductions.

03

OUTCOME

Provided Miami-Dade County with a defensible, monetized analysis that satisfied Envision credit LD3.3 requirements, supporting informed decision-making and contributing to the project's overall Envision Bronze rating.

PUBLIC TRANSIT INVESTMENT STRATEGIES

The cost benefit analysis examined the impacts of providing a safe, comfortable, and convenient transit facility that connects major employment areas and reduces traffic congestion. It is expected to improve quality of life for local communities by offering faster, more efficient access to work, retail, cultural, and recreational amenities.

ANALYTICAL FRAMEWORK

The triple bottom line cost benefit analysis (TBL-CBA) evaluated the financial implications of implementing the strategies, considering upfront capital costs, operational expenses, and long-term savings. It also assessed environmental benefits and social value from reduced vehicle use, congestion, noise pollution, road maintenance, and carbon emissions.

RESULTS



Triple Bottom Line Net Present Value (TBL-NPV): \$53 million:

- **Reduced private vehicle use:** \$74.8 million
- **Reduced noise pollution:** \$5.6 million
- **Reduced commuter time / congestion:** \$1.5 million
- **Reduced road maintenance:** \$1.1 million
- **Reduced carbon emissions:** \$149K

OUTCOME

Dolphin Station Park-and-Ride Transit Terminal Facility marks a significant milestone in Miami-Dade County's sustainable mobility journey. As the second Envision-certified project and one of the first Envision projects to undertake a TBL-CBA, it provides a replicable model for future transit-oriented development. The facility enhances connectivity, supports regional growth, and demonstrates the tangible value of integrating sustainability into infrastructure planning.

KEY FINDINGS

1. The TBL-CBA quantified the project's contribution to regional economic development, including over 100 construction jobs—32 from small, local businesses—demonstrating local economic stimulus.
2. The projected removal of 700+ vehicles from daily traffic was monetized to reflect environmental benefits (e.g., improved air quality) and reduced private vehicle operating costs.
3. The facility's multimodal features—pedestrian and cyclist infrastructure—were evaluated for social value, including enhanced safety, equitable access, and public health benefits.
4. As Miami-Dade County's first full TBL-CBA in an Envision certified project, the analysis set a precedent for embedding data-driven evaluation into sustainable infrastructure planning.
5. Results confirmed the station's impact on regional mobility and congestion reduction, with monetized benefits aligned to SMART Plan and MPO 2045 L RTP transit efficiency objectives.
6. The TBL-CBA ultimately demonstrated quantifiable triple bottom line returns—economic, environmental, and social—supporting the rationale for design alternatives under Envision LD3.3.