

BROWARD MPO BOARD
PREMIUM TRANSIT EDUCATION SERIES

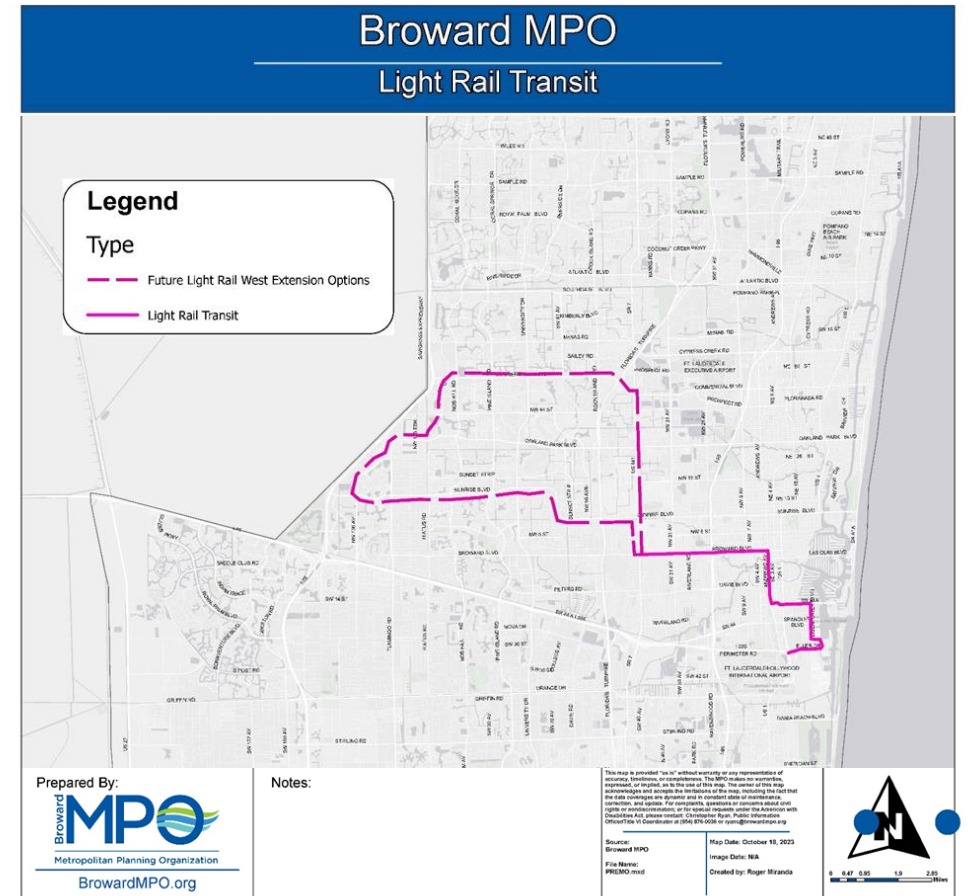
THE LEADING EDGE OF LIGHT RAIL TRANSIT

NOVEMBER 2, 2023

LIGHT RAIL TRANSIT IN BROWARD

23.3 MILES OF LRT SERVICE

- AIRPORT-SEAPORT-CONVENTION CENTER *EOY 2028*
- DOWNTOWN CONNECTION *EOY 2031*
- BROWARD BOULEVARD *EOY 2035*
- ANTICIPATED INVESTMENT: **\$2.62B**
- ANTICIPATED RIDERSHIP: **3.3 – 6.7 MILLION ANNUALLY**



PREMO LRT, 2023

WHAT IS LIGHT RAIL TRANSIT (LRT)?

- EVOLVED FROM TRAM/TRADITIONAL STREETCAR
- ELECTRIC-POWERED RAPID TRANSIT (OCS)
- 1, 2, OR 3 TRAIN CAR SETS
- TYPICALLY OPERATES IN EXCLUSIVE RIGHTS-OF-WAY
- MAY FUNCTION AS HYBRID
- LARGER, FASTER, TRAVELS FURTHER DISTANCES THAN STREETCAR



VALLEY METRO RAIL, PHOENIX, AZ

WHAT IS LIGHT RAIL TRANSIT (LRT)?

- LRT/BRT STATIONS COMPARABLE STATIONS
 - LEVEL BOARDING
 - OFF-BOARD FARE COLLECTION
 - HEIGHTENED SECURITY
 - INTERSECTION TREATMENTS
- ± ONE MILE BETWEEN STATIONS
- 48 - 52 SEATED CAPACITY
 - CRUSH LOAD 219± PER CAR
- TRAVEL UP TO 66 mph



SOUND TRANSIT, SEATTLE, WA

LIGHT RAIL TRANSIT BEST PRACTICES

- **LOCATION:** REGIONAL & URBAN CONTEXTS
- **SYSTEM PLANNING:** FULLY INTEGRATED IN TRANSIT NETWORK
- **SUPPORTING POLICIES:** LAND USE, DESIGN GUIDELINES, STATION AREA PLANNING THAT ENCOURAGE TRANSIT-SUPPORTIVE AND TRANSIT-ORIENTED DEVELOPMENT
- **COMPLEMENTARY STRATEGIES:** SIGNAL OPERATIONS, TRIP REDUCTION ORDINANCES, ETC.



SOUND TRANSIT, EVERETT, WA

WHY CHOOSE LIGHT RAIL TRANSIT?

- COMPLEMENTS HEAVY RAIL OR WORKS INDEPENDENTLY
- QUICK, COST-EFFECTIVE INTERURBAN TRANSPORTATION
- ADDRESSES GAP BETWEEN HEAVY RAIL AND LOCAL BUS NETWORK
- OPERATES AT FASTER SPEEDS/GREATER CAPACITY THAN BUS RAPID TRANSIT



THE TIDE, NORFOLK, VA

WHY CHOOSE LIGHT RAIL TRANSIT?

- IMPROVES EQUITY & ACCESSIBILITY
- PROVEN ECONOMIC GENERATOR
- LOWER OPERATION/MAINTENANCE COSTS THAN BUS
- ATTRACTS MORE RIDERS THAN OTHER MODES
- ENVIRONMENTALLY FRIENDLY
 - REDUCES EMISSIONS
 - PRODUCES LESS NOISE



WHY CHOOSE LIGHT RAIL TRANSIT?

LIGHT RAIL TRANSIT TAKES MOTOR VEHICLES OFF THE ROAD AND PROVIDES A VIABLE ALTERNATIVE TO THE SINGLE OCCUPANT VEHICLE



PRIVATE MOTOR VEHICLES
600–1,600/HR



DEDICATED TRANSIT LANES
4,000–8,000/HR



ON-STREET TRANSITWAY, BUS OR RAIL
10,000–25,000/HR

The capacity of a single 10-foot lane (or equivalent width) by mode at peak conditions with normal operations.⁵

NACTO Transit Street Design Guide

LEADING EDGE TECHNOLOGY ADVANCING LRT

DIGITAL TECHNOLOGY TO IMPROVE OPERATIONS IN PORTLAND, OREGON

CLOUD-BASED REAL-TIME INFORMATION

- FLEET MONITORING
- SCHEDULE ADHERENCE
- DATA ANALYTICS
- OPERATIONAL INSIGHTS
- REMOTE DIAGNOSTICS
- TRANSIT SIGNAL PRIORITY
- CONDITION-BASED MAINTENANCE



SIEMENS S700 FOR TRIMET, PORTLAND, OREGON

LEADING EDGE TECHNOLOGY ADVANCING LRT

WIRELESS LIGHT RAIL IN BORDEAUX

- GROUND POWER SYSTEM CALLED ALSTOM APS
- ELIMINATES OCS
- ELECTRIFIED THIRD RAIL BETWEEN RUNNING RAILS
 - 33-ft SEGMENTS AUTOMATICALLY SWITCH ON AND OFF AS LRV PASSES OVER THEM
 - FIBERGLASS I-SHAPED POWER RAIL PLUS 'PICK UP SHOES' THAT COLLECT POWER SUPPLY

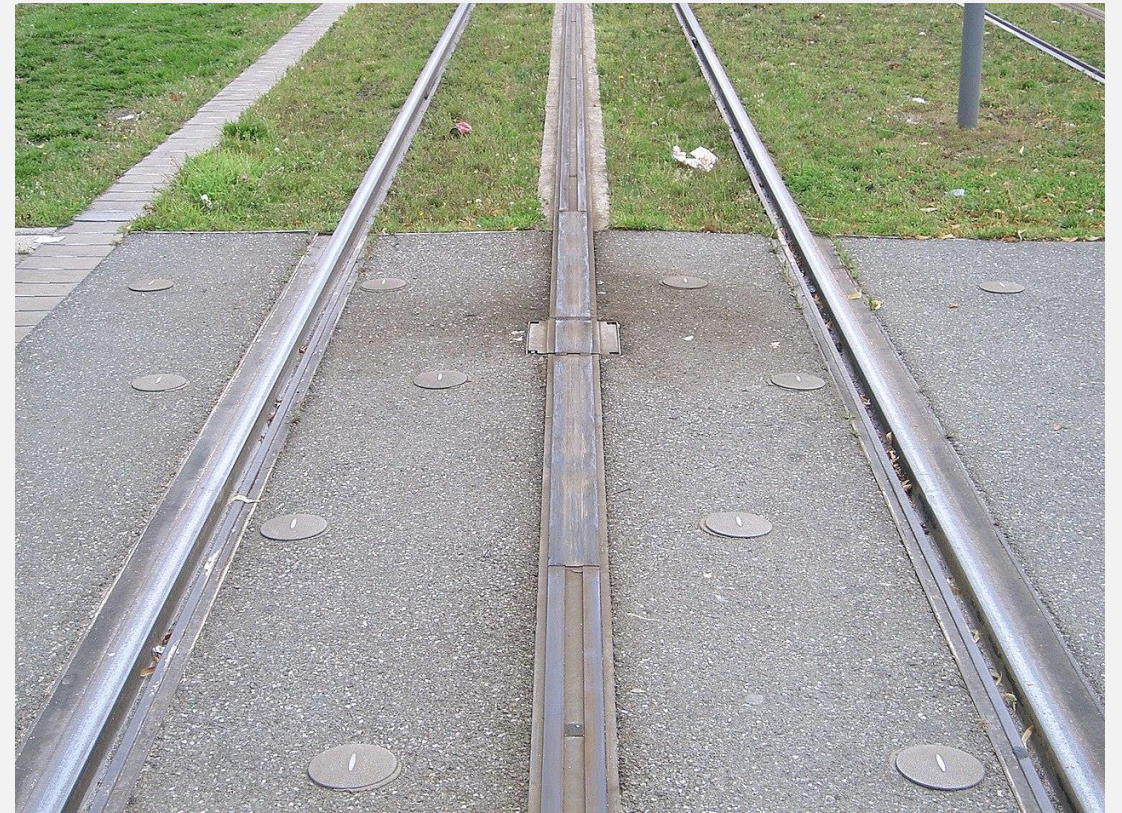


LRT with ground power supply, Bordeaux, France

LEADING EDGE TECHNOLOGY ADVANCING LRT



EX. POWER COLLECTION SHOE ON LRV



APS TRACK WITH NEUTRAL/POWERED SEGMENTS

LEADING EDGE TECHNOLOGY ADVANCING LRT

BATTERY POWERED IN NEWCASTLE, AUSTRALIA

- ENTIRELY CATENARY-FREE, NO WIRES
- ON-BOARD POWER SUPPLY: SUPERCAPACITOR
- LRV CHARGES AT STATIONS THROUGH RAISED PANTOGRAPH WHILE PASSENGERS BOARD AND ALIGHT
- ELEVATED CHARGE BAR DELIVERS 750vcc POWER
- FULLY-CHARGED LRV CAN TRAVEL UP TO 75 MILES
- INTERMITTANT CHARGING EXTENDS DISTANCE



NEWCASTLE LIGHT RAIL, NSW, AUSTRALIA

LEADING EDGE TECHNOLOGY ADVANCING LRT

REMOVING OVERHEAD CATENARY SYSTEM

- PRESERVE HISTORIC SITES, TREES
- UNLIMITED POWER SUPPLY
- COMPATIBLE WITH ALL ROAD SURFACES
- EASY SYSTEM EXTENSION
- RESILIENT TO EXTERNAL CONDITONS
- TOTAL ELECTRICAL SEPARATION AND SAFETY FOR PASSENGERS, PEDESTRIANS, CYCLISTS, AND MOTOR VEHICLES



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QUESTIONS?

Amanda Christon

christona@browardmpo.org (954) 876-0078