NEW ORLEANS STREETCAR EXPANSION
LESSONS LEARNED
Louisiana Transportation Conference – February 28, 2018
Rampart Streetcar: Open in 2016
22 Months
3.2 Track-miles
$65 Million

Loyola Streetcar: Open in 2013
19 Months
1.6 Track-miles
$61 Million

Cemeteries Transit Center: Open in 2017
4 Months
$13 Million

St. Charles Streetcar
Riverfront Streetcar
Canal Streetcar
Loyola Streetcar Issues / Challenges

• Rushed Design and Planning Phase due to Funding Opportunities
• Conflicts between the Design and Known Existing Conditions
• Conflicts between the Design and Unknown Existing Conditions
• Overcomplicated Design
• Inefficient Coordination with other Stakeholders
• Scope of Work Changes on the Fly
• Delayed Special Trackwork Procurement
• 2013 Super Bowl Deadline
• Poydras & Loyola Intersection
• 30 & 36” Water main Relocation
• 25’ Deep Jack & Bore Operations at 3 Locations to install New Waterline under 130 Years Old S&WB Underground Drainage Canal
- Deep Excavations in New Orleans
- Obstructions
- Water Table
- Unstable Conditions
• Jack & Bore at Tulane and Loyola Intersection
• Underground Water
• Sinking Intersection
• Abandoned Operations
• Emergency Re-design
• Stainless Steel Troughs to Penetrate through the Roof of the Underground Canal Structure
Underground Bridges on Steel Piles Designed for the Streetcar Tracks to Cross S&WB Canal

Multiple Conflicts with Existing Underground Utilities

Abandoned Piling Operations

Trackslab Redesign
• Uncovered Entergy Manhole Buried in the Neutral Ground

• Special Potholing Crew to Identify and Mitigate Conflicts in Advance
Lessons Learned / Rampart Improvements

• Diligent Planning
• Intensive Investigation of Underground Utilities
• Thinking Outside the Box to Avoid Conflicts
  • *The Streetcar Guideway Alignment to Minimize Underground Utility Relocations*
  • *Working Closely with all Utility Companies to Find the Best Solutions*
• Challenge the Design to Eliminate Deep Excavations
  • *Trackslab Designed to bridge over the Existing Utilities*
  • *Electrical Ductbank and Manholes Incorporated into the Trackslab*
  • *OCS Foundations Vacuumed vs. Drilled (with Eccentric Caps)*
Rampart Track Alignment

Designed to Avoid Major Utility Conflicts and Provide the Best Use of the Corridor

Current

Upriver

Downriver

- 24” Gas Line
- Major Electric Duct Bank
- S&WB Underground Canal Structure
- Fiber Optic Line
Lessons Learned / Rampart Improvements

- Focus on Accelerated Construction
  - Accelerated Installation of Special Trackwork
  - New Method of Rail Encapsulation
  - Working Closely with the DPW to allow Closures in Exchange for Accelerated Delivery
  - Above & Beyond Public Outreach to gain Community’s Confidence and Appreciation
The Half Grand Union Installation
Canal Northbound and Rampart Closed for 30 Days – 24/7 Operation – Open On Time
The Same Work during Loyola Project took 4 Months
• Loyola HGU Work
• Building Waterproofed Concrete Tubs to insulate Special Trackwork
- Rampart HGU Work
- Offsite “Spray On” Encapsulation of the Special Trackwork
• Rampart HGU Work
• Installation and Assembly of the Entire HGU on top of Compacted Subgrade
• Cemeteries Transit Center
• Extension of Canal Streetcar Line from Canal Street to Canal Blvd.
• “Spray On” Encapsulation of the Special Trackwork
• Full Closure of the Intersection
• Completed in 4 Months
Streetcar Shelters – Architects & Cost

LOYOLA

RAMPART