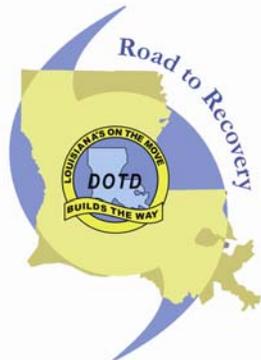




Hurricane-Related Transportation Infrastructure Damage & Recovery

Kirt Clement, P.E.
Louisiana Department of
Transportation and Development



29 August 2006

Hurricane Katrina Makes Landfall

- The largest natural disaster in the history of the United States.





Interstate System



Interstate System (Chef Menteur)

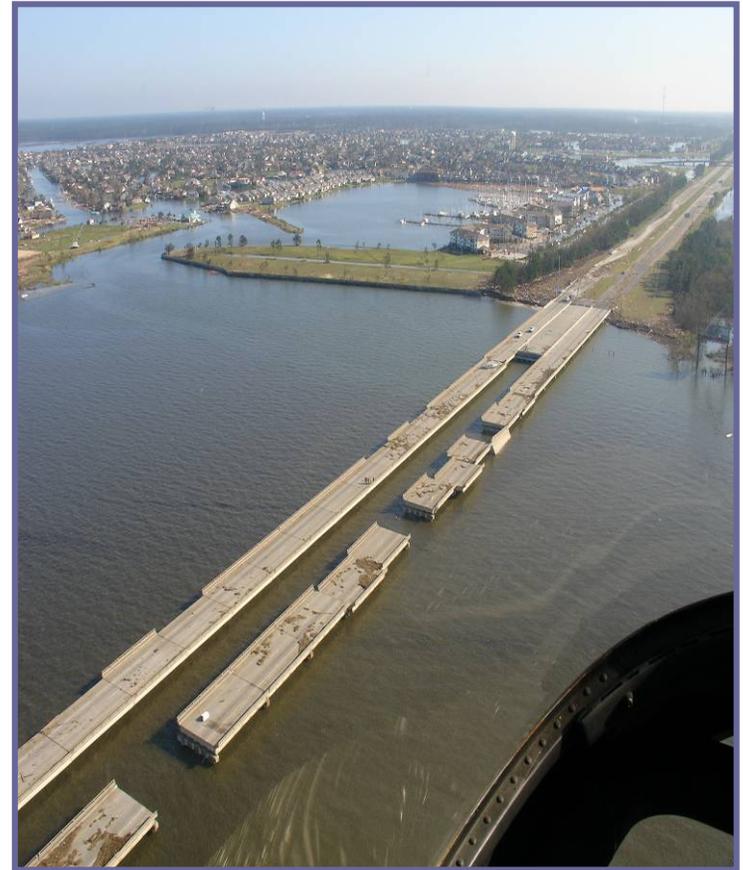


LA 1 at Leeville Bridge



Southeast Louisiana

I-10 Twin Span Bridge

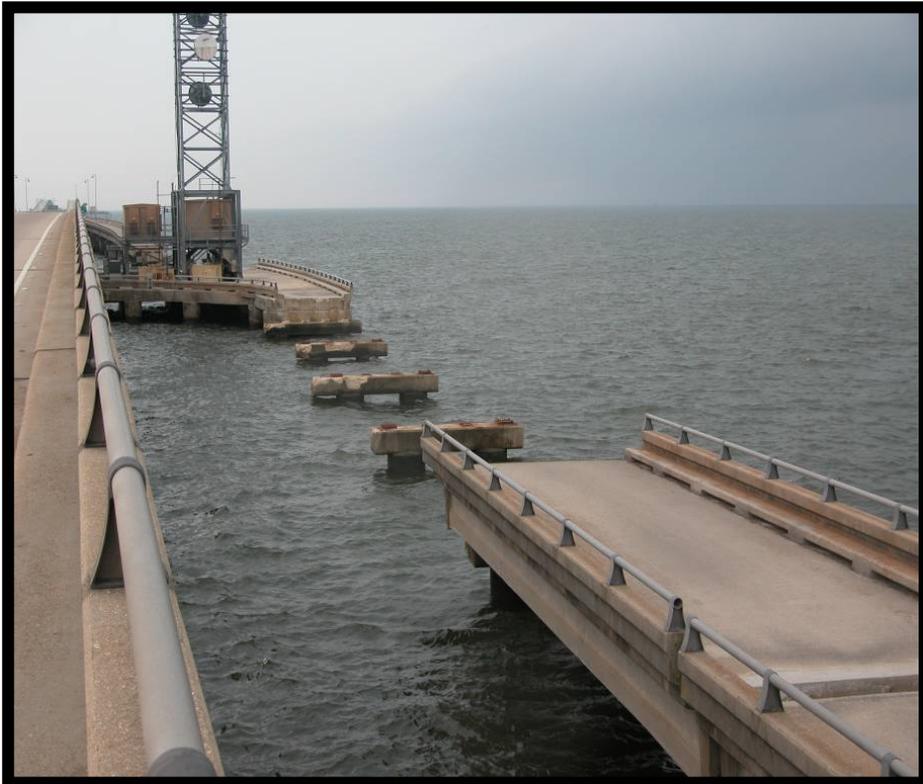
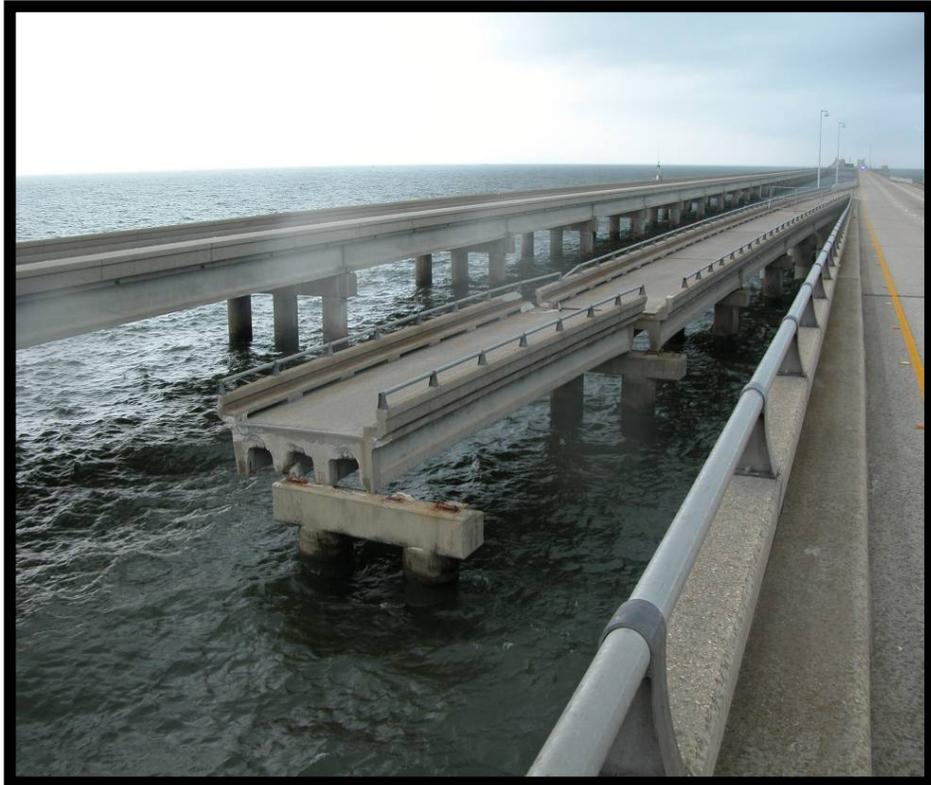


30 August 2005



New Orleans East

The Causeway Bridge



LA 23 South End Empire Bridge



LA 1 Caminada Bay Bridge



Barge Atop the Almonaster Bridge



Southeast Louisiana

Alamouster Avenue, New Orleans East

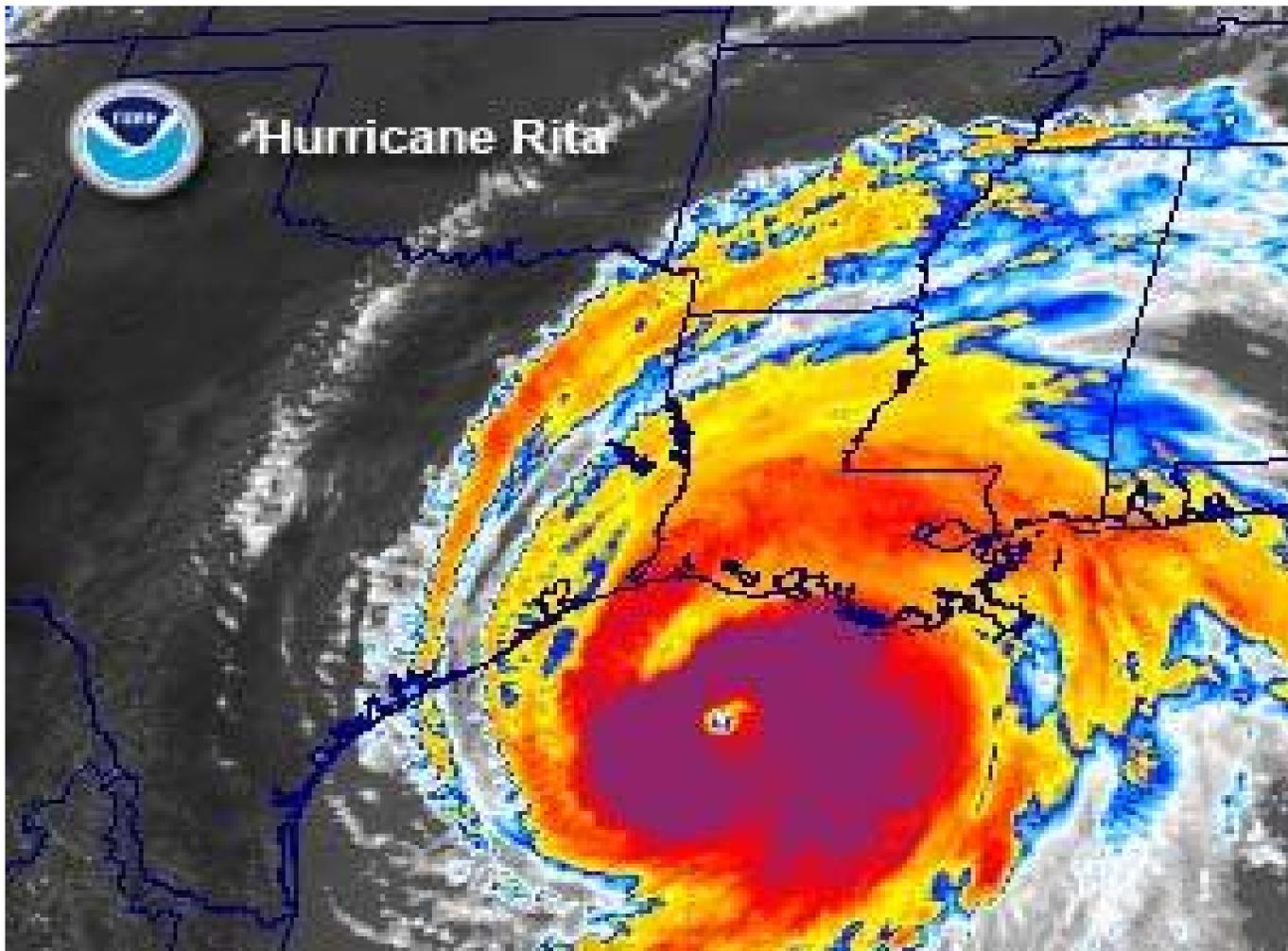


DOTD Ferries



24 September 2006

Hurricane Rita

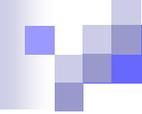


Southwest Louisiana



Post-Hurricane Challenges

- **Communications out**
- **~25 % workforce directly affected**
- **~10% missing**
- **No utilities/services/housing/food/etc.**
- **Mobilizing resources from around the state**
- **Recovering from disaster while continuing to pursue state transportation program**



The Recovery Process

- Debris
- Traffic signals, signs, ITS
- Movable bridges
- Roads & bridges
- Subsurface





Debris

■ DOTD has

- Picked up over 3.6 million CY of debris
- Cost ~ \$ 140 million

■ State Wide

- Debris total estimated at 60 million CY
 - 25 X World Trade Center volume
- ~ 50 million CY picked up to date





Traffic Signal Repair & Restoration

- 840 signals damaged statewide
 - New Orleans signals
 - 300 of 415 intersections damaged
 - 170 complete rebuild
- Total cost of repairs \$25 million
 - New Orleans - \$20 million

Traffic Sign Repair

- Over 1,000 Interstate signs repaired statewide
 - Replaced 104 large overhead guide signs
 - Fabricated 807 ground-mounted signs
- Provided 6,000 temporary stop signs for City of New Orleans
- Executed contract to inspect sign trusses
- Estimated cost of repair \$10 million





Movable Bridges

- 142 movable bridges in storm affected areas
- 37% were damaged
- 28% closed
- \$ 9 million in damages
- Louisiana has more movable bridges than any other state



DOTD has facilities covered by

Two Federal Agencies with

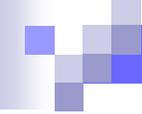
Two Approaches to Recovery and

Two Processes and Procedures and

Two Storm Events

Funding Priorities & Challenges

- Keep cash flow positive
- Pay contractors on time
- Speed up the recovery effort
- Keep the regular highway program on track
- Aggressively push for Congressional approval of ER funds
- Set up line of credit (but didn't have to use)
- Aggressively pursued approval of damage claims through FHWA and FEMA



Management Objectives

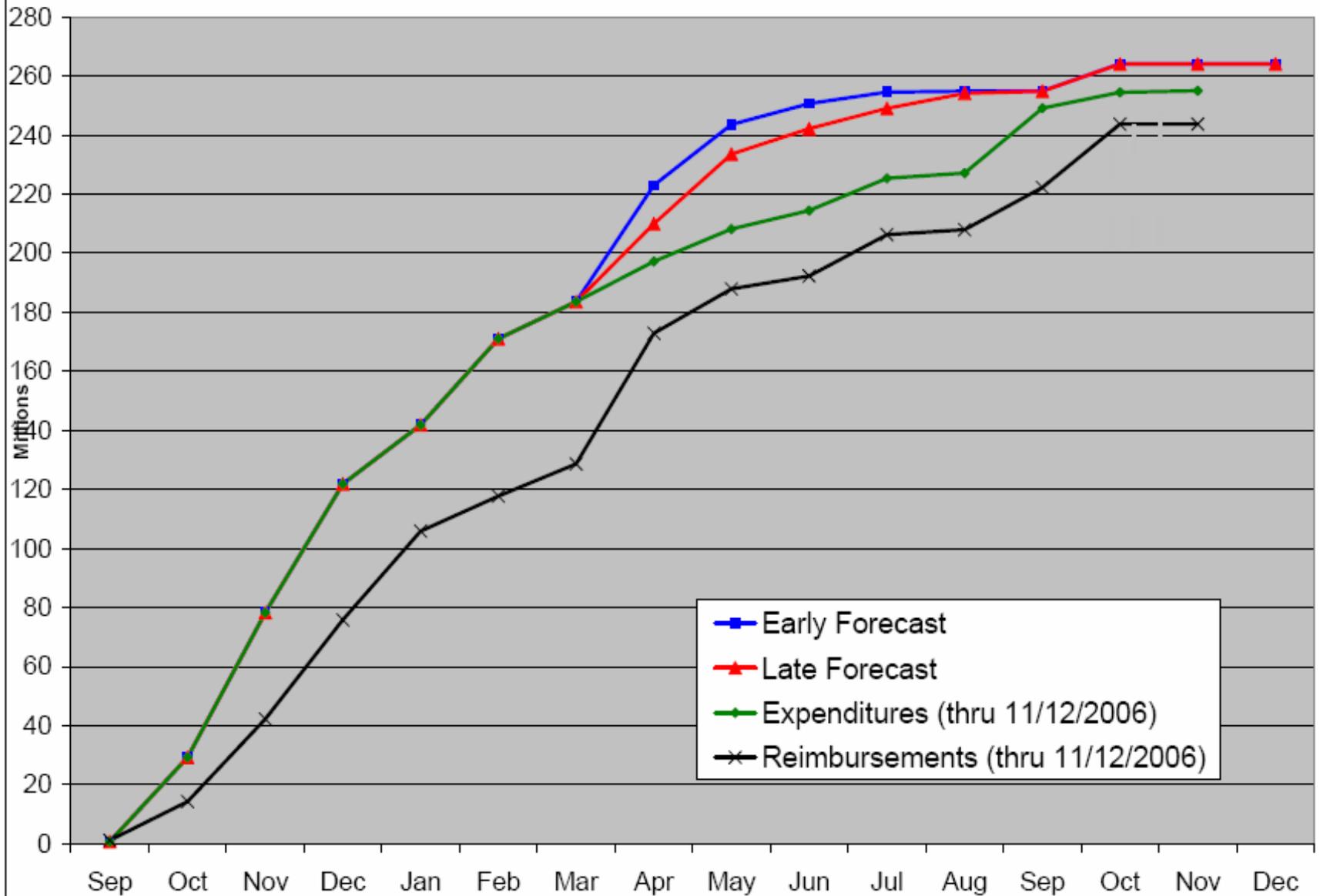
- **Aggressively manage reimbursement processes to accelerate the flow of federal funds**
- **Communicate and manage information with transparency**
- **Implement controls to mitigate audit risk**

Overview

	Authorized/ Obligated	Spent	Reimbursed
FEMA PWs	\$71 M	\$67.9 M	\$57.7 M
FHWA ER Funds	\$1,189 M / \$945.7 M	\$204.7M	\$202.2 M
TOTAL	\$1,260 M	\$272.6 M	\$259.9 M

As of 16 November 2006

Forecast DOTD Hurricane Expenditures Total Capital Outlay Contracts Thru 11/12/2006



DOTD's Recovery Portal

DOTD's recovery information is housed on a secure project website.

projectsolve²

my ProjectSolve > LADOTD Katrina / Rita Recovery Program

LADOTD Katrina / Rita Recovery Program 

a Project Site created on 21 Sep 05

 create  search  meetings & events  members

Status 

Welcome! The purpose of this secure project site is to facilitate communication and collaboration among those involved in LADOTD's hurricane recovery activities. If you have any questions about content or obtaining access for another team member, please contact [Jeff Brown](#).

Technical questions on ProjectSolve usage may be sent to the [ProjectSolve Help Desk](#).



Contact Directory



Communications Program



FHWA Damage Inspection Report Database - Urban Systems



LADOTD Employee Phone List



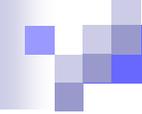
ProjectSolve Information



Important Websites



Recycle Bin



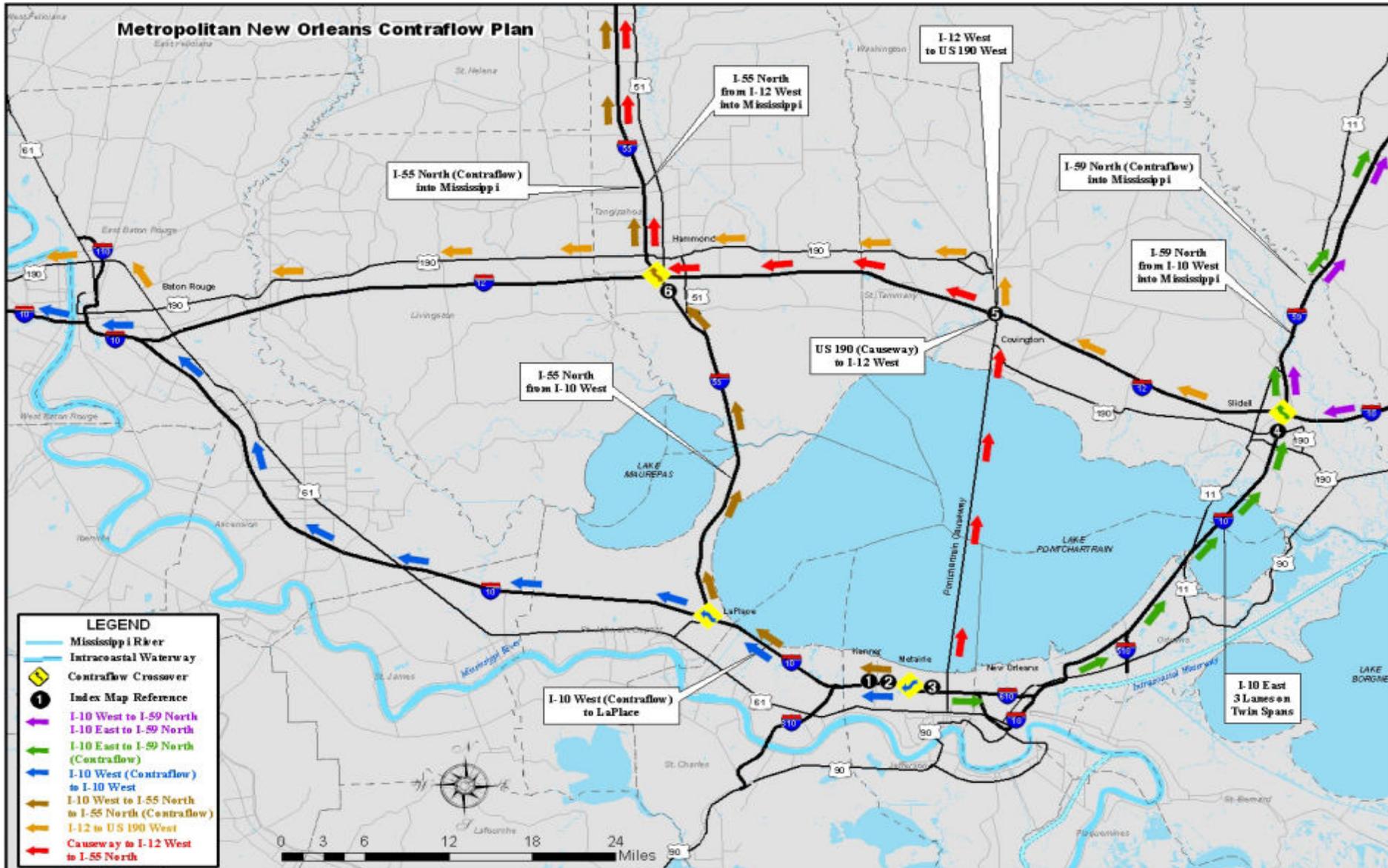
LA DOTD Success Stories

- **Contra-flow evacuation**
- **DOTD ferry rescue/recovery**
- **Customer Call Center**
- **Motorist Assistance Patrol**
- **LA Swift Bus Program**
- **I-10 Twin Span Bridge over Lake Pontchartrain**

Evacuation – Contraflow



Contraflow Plan for Katrina



Highlights of Contraflow Process

- Operated for 25 hours
- Over 1 million (est.) evacuated
- Longest delay: 2 – 3 hours
- Successes
 - Metro New Orleans evacuated
 - Motorist Assistance Patrols



DOTD Ferry Rescue/Recovery



- Evacuated 6,000 stranded citizens
- Provided food/water/supplies for recovery
- Ferried over 100 emergency vehicles for recovery operations



Customer Service Call Center

- **Established 24/7 Call Center**
 - Routed public to critical service outlets
 - Emergency rescue calls
 - Miscellaneous information requested
- **Handled 7,645 calls from 8/31 to 9/26**

LA Swift Bus Program



LA Swift

- LRA, LA DOTD and Louisiana Department of Labor initiative
- Free bus service from Baton Rouge to New Orleans
- Transit option for displaced residents to return to New Orleans
- Originally funded by FEMA
- Began Oct 2005
- DOTD funding thru February 2007
- Averages more than 700 riders per weekday
- Has provided 250,000 rides since inception

I-10 Twin Span Bridge



Two lanes open to traffic in six weeks

I-10 Twin Span Bridge – Phase I Opening Event



14 October 2005

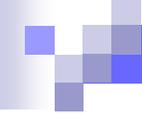
TWIN SPAN BRIDGE



Groundbreaking on New Bridge 13 July 2006

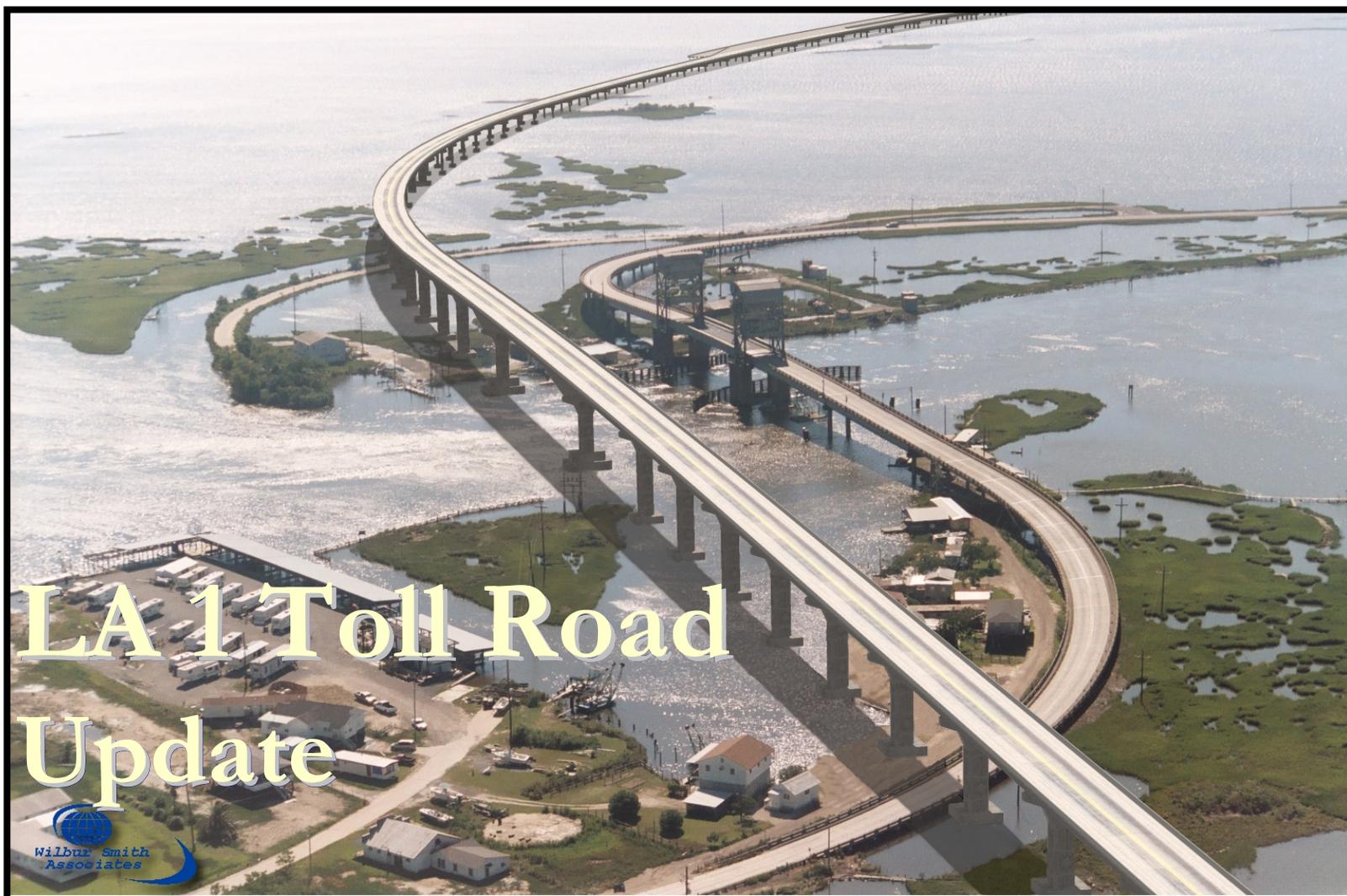


Artist's Rendition



Other Initiatives

- **LA 1 toll toad to Port Fourchon**
- **LA Rail**
- **Pavement system subsurface damage**



LA 1 Toll Road Update



18 July 2006

LA 1 at Leeville During Katrina

- This is the only evacuation route for Grand Isle and Port Fourchon
- Many of the offshore workers will evacuate via LA 1





Bayou Lafourche Approaches and High Level Crossing

Construction Schedule

- **Started construction in May 2006**
- **Contract requires completion and open to traffic by 1 December 2009**
- **Tolls will be implemented when opened**



Elevated Roadway to Port Fourchon

Construction Schedule

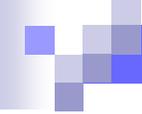
- **Opened bids – December 2006**
- **Construction start in first quarter 2007**
- **Completion and open to traffic first quarter of 2011**

LA Swift to LA Rail

– The Next Step



Moving Louisiana Transportation Forward



LA Rail Goals

- **Challenge:**
 - Establish intercity passenger service with a trip time of approximately two hours
- **Long-Term: FY 2010 and beyond**
 - Establish permanent intercity passenger service with additional stops and a trip time of approximately 1.5 hours



Concept of Operations

- Amtrak will provide “turn-key” service
- Travel Time: approximately two hours
- Capacity: 300+ passengers per train
- Eight trains M–F; six trains on weekends
- Four intermediate stops

Submerged Roads – Overview

- Nearly the entire street network in Orleans (80%) and St. Bernard (87%) Parishes, and portions of the network in Plaquemines (50%) and Jefferson (30%) Parishes were submerged in flood waters for up to five weeks.
- The area was flooded for three weeks by Katrina, then re-flooded for two weeks by Rita.



Submerged Roads – Overview

- **Approx 2,000 miles in greater New Orleans submerged in floodwaters up to five weeks**
 - 500+ miles of federal-aid
 - 1,500 miles NFA
- **Substantial testing of most state-owned roads completed**
 - 238 miles federal-aid
- **Broken water and sewer lines under roadways demonstrated that bases have been weakened due to saturation**

Hurricane-Related Transportation Infrastructure Damage & Recovery

