

2008 APAM Award of Excellence!




Miller Road Reconstruction

**Radisson Plaza Hotel
Kalamazoo, MI
February 24, 2009**

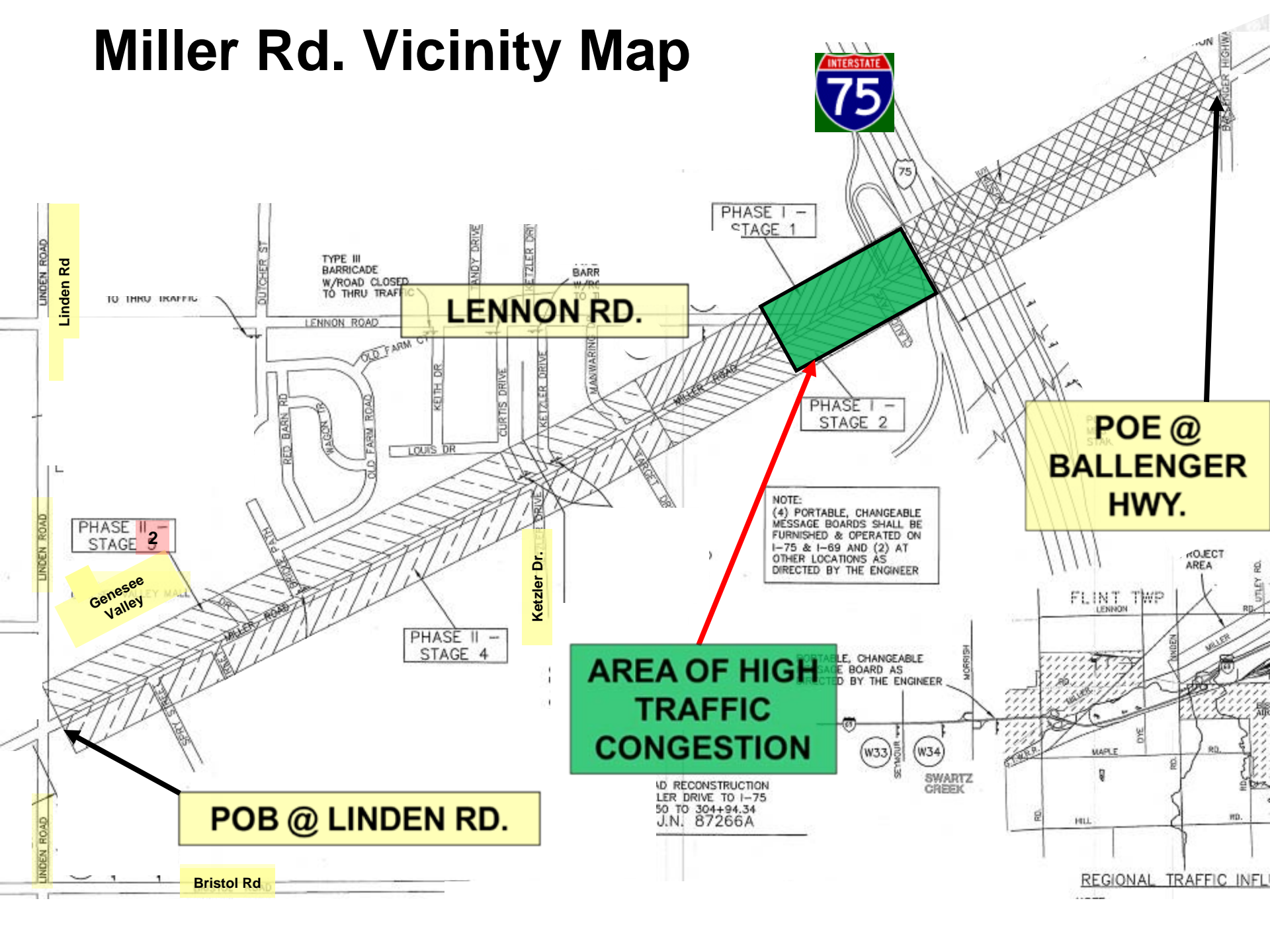
**Presented By:
Alexander J. Patsy, E.I.T.
Project Engineer,
Genesee County Road Commission**





Significance

- Located in Flint Twp, Genesee County, MI
- Largest Commercial Thoroughfare / Retail Sector in Genesee County
- Project Length of 2.32 Miles; 5-6 Lanes
- Highest ADTs among all GCRC Roadways
- Major Expressway Interchange with  , 
& 
- Three High Traffic Volume Intersections at Linden Rd, Lennon Rd and Ballenger Hwy.
- Diminishing PASER over 10 years
- Project Development was Work-In-Process for eight years prior to construction

Miller Rd. Vicinity Map



Brief History

- Designated M-78 in 1931. Hard Surface Concrete Road with two 10' wide lanes 
- Widened to four, then to six lanes in piecemeal fashion from 1965-75, in conjunction with business development.
- Transferred from MDOT to GCRC in 1970 in conjunction with opening of 1-69 Freeway 
- Genesee Valley Mall Opens in early 1970's, Significant Increase in Traffic
- Various Resurfacing projects through 1970's & 1980's, Last of which in 1989

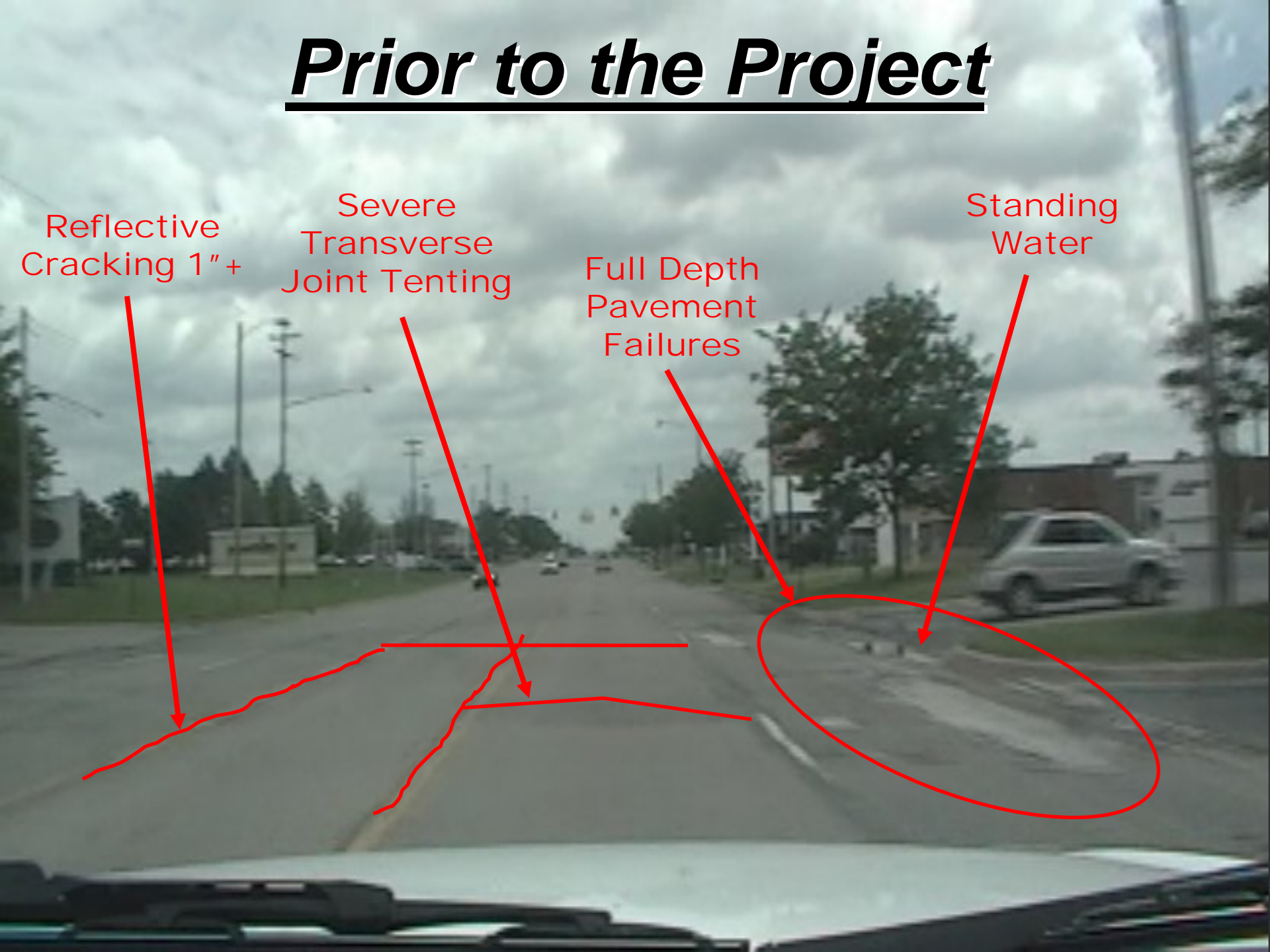
Prior to the Project

Reflective
Cracking 1" +

Severe
Transverse
Joint Tenting

Full Depth
Pavement
Failures

Standing
Water

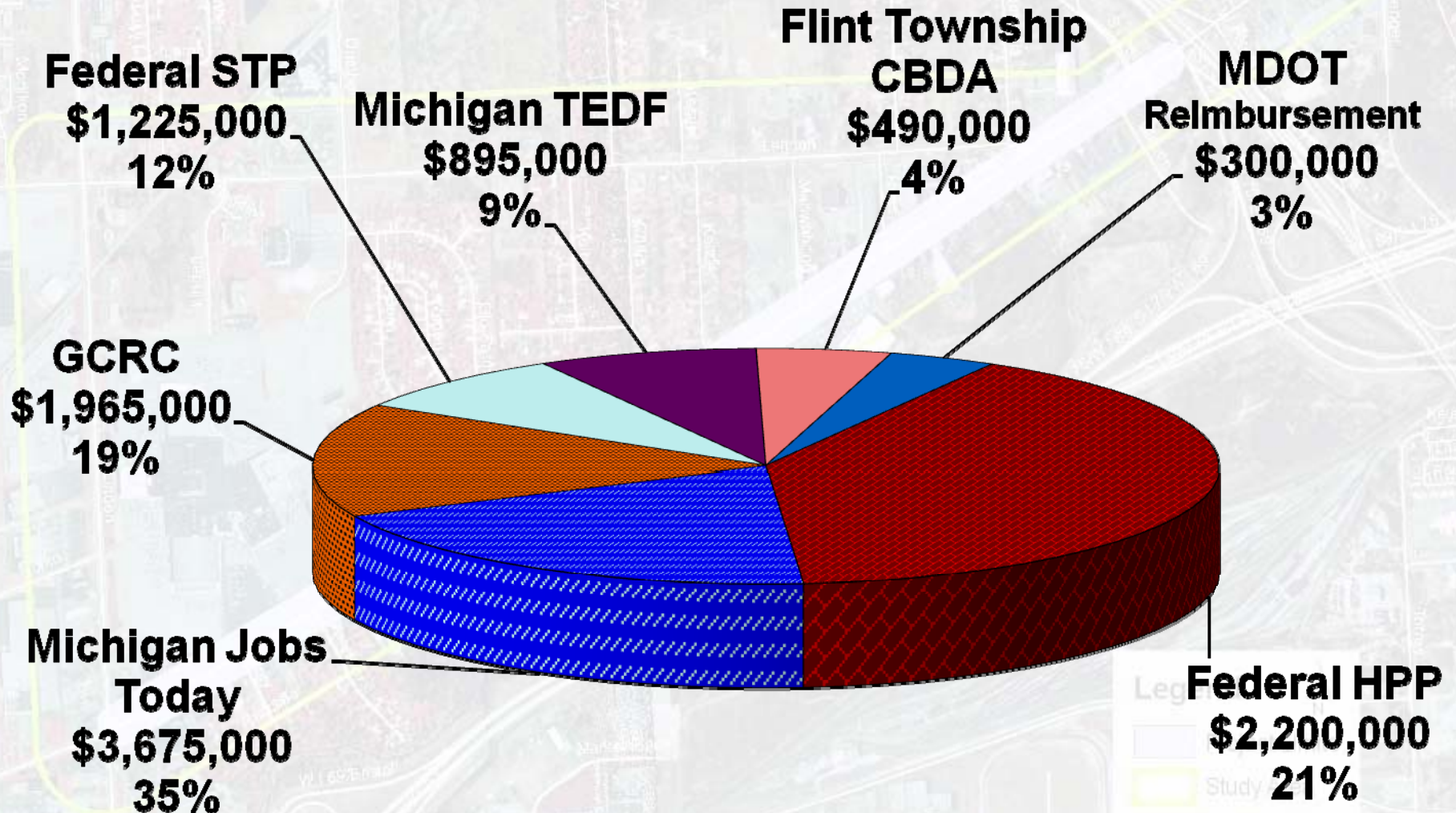


Scope of the Project

- **Total Reconstruction of Roadway & Drainage**
 - Installation of Sub base Under drain Throughout Project
 - Aggregate Base (Crushed Concrete meeting 21AA Gradation)
 - HMA Super Pave (e mix)
 - New Drainage Structures
 - New Storm Sewer
 - New Concrete Curb and Gutter
- **Installation of Dual-Left Turn Lanes from Miller onto I-75 for Increased Traffic Capacity**
- **Widening and Resurfacing of I-75 Interchange Ramps**
- **Traffic Signal Upgrades (LED Lenses & Interconnect)**
- **Designation of Bus Lanes and Bus Stops**

Miller Road Reconstruction

Cost Sharing
(\$10,455,400 total)



The Rundown

GENESEE COUNTY ROAD COMMISSION

- John H. Daly III, PhD. Manager Director
- Fred F. Peivandi, P.E. County Highway Engineer
- John T. Plamondon, P.E. Construction Manager



DESIGN CONSULTANTS



ROWE PROFESSIONAL
SERVICES COMPANY

- Rowe Incorporated (Flint, MI)
- Kraft Engineering & Surveying (Flint, MI)
- Mensell Associates (Farmington, MI)

CONTRACTORS



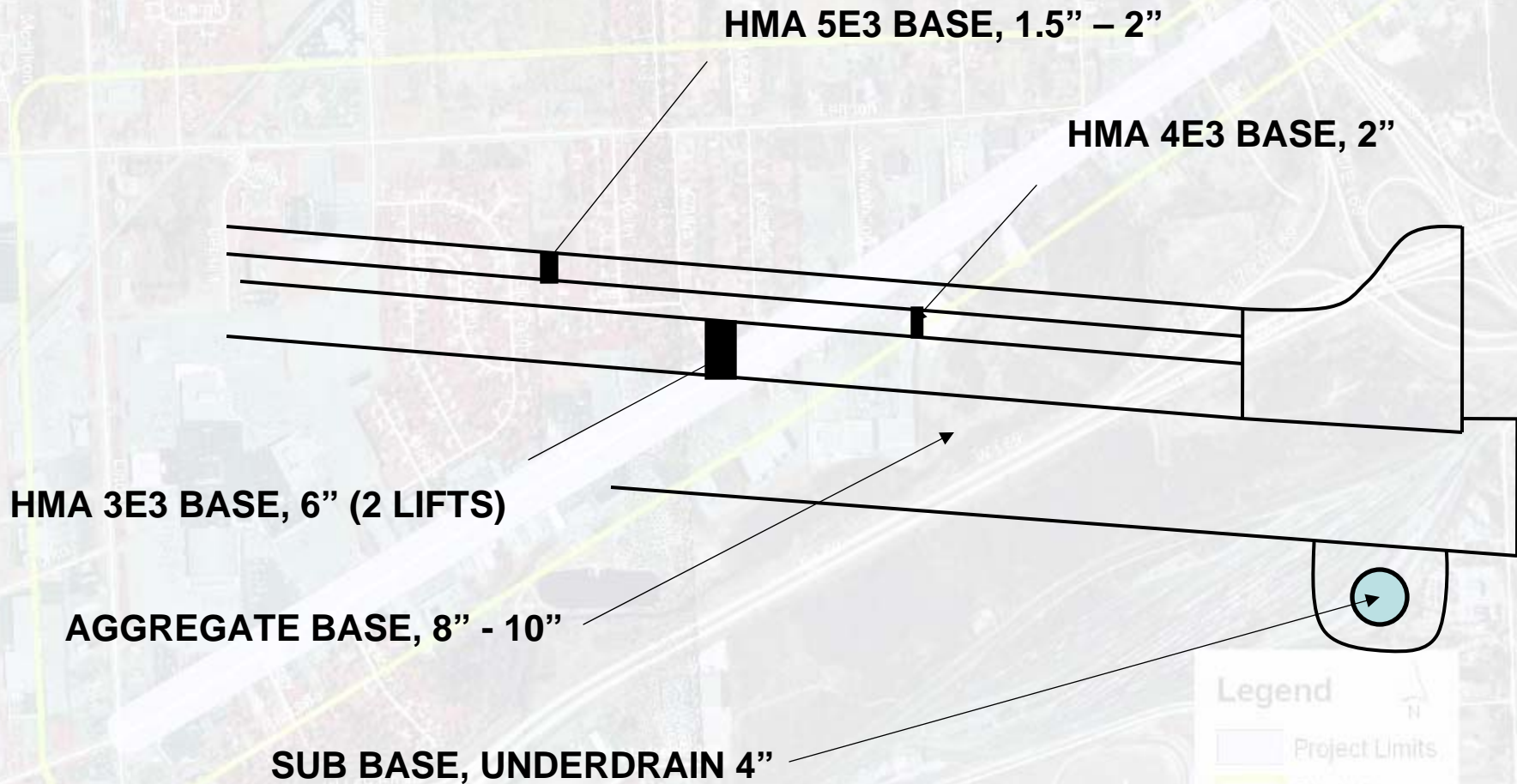
- Zito Construction (Grand Blanc, MI)
- Ace Asphalt & Paving (Flint, MI)
- GM & Sons (Whitmore Lake, MI)
- Zimmerman & Sons (Port Austin, MI)



Choosing HMA over Concrete

- **Access Management - Flexibility to Maintain Traffic and Retail Access at All Times and Locations**
- **Time-saving for Maintaining Mainline Traffic when performing Traffic Shifts**
- **For Unforeseen Repairs, Minimize Impacts to Businesses & Motoring Public**
- **Life-Cycle Analysis: Long-Term Future Roadway Resurfacing would be a Minimal Expense and Minor Impacts to Traffic**

TYPICAL PROPOSED X-SEC



The Challenge of Access Management



Pre-existing
Shared PTs

- **148 Individual M-Openings**
 - Many of Which were Immediately Adjacent
 - Shared Points of Tangency
 - Actual Drives Did not Connect with Each Other
- **Businesses were Adamant on Keeping their Drive Access**
- **Reluctant to Temporarily Share or Relocate any Openings**

Taking Care of Business

- **Took in Local Businesses on a Partnership Basis**
- **Drive Access Maintained at all Times (200+ Individual Businesses)**
- **Guaranteed Three Lanes of Traffic (Center Turn Lane) Maintained at all Times**
- **Changeable Message signs on Freeways (I-69 / I-75 / US-23)**
- **Public Relations & Weekly updates**
 - Local TV & Radio
 - Newspaper
 - Continuous Email report to merchants
 - “...Please Feel Free to Contact us.” (www.gcrc.org)

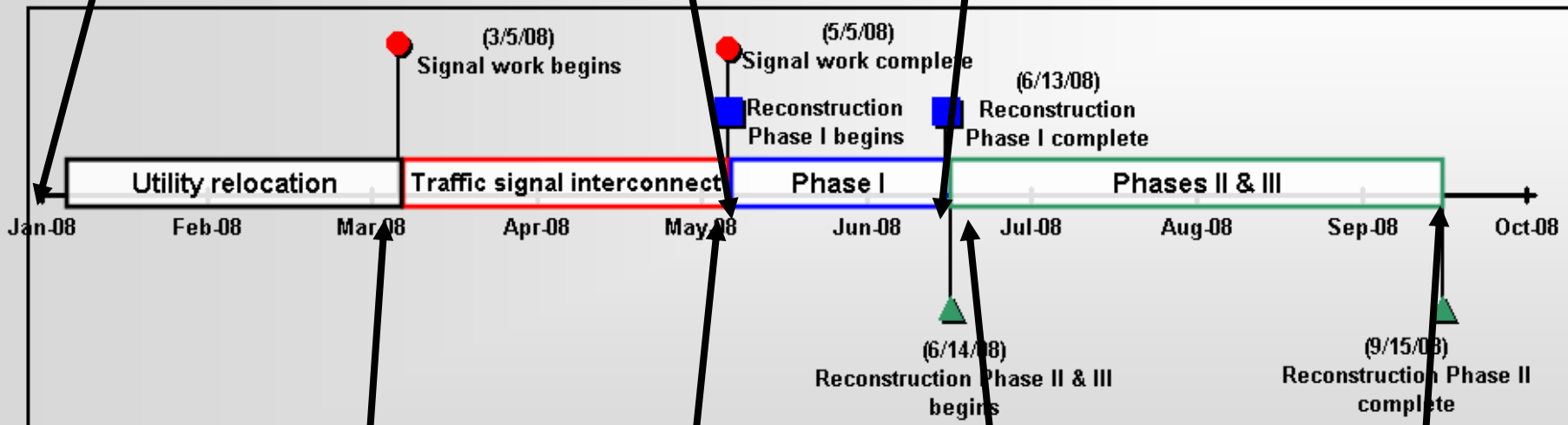


Early Dec. 2007
Utility Relocation
Begins

May 5th
Phase I
(Manwaring to I-75)
begins

June 13th
Phase I
(Manwaring to I-75)
complete

Miller Road Reconstruction Estimated Timeline



Note 1: Dates are approximate and subject to change.

Note 2: No work to be performed Memorial Day, 4th of July or Labor Day periods.

Note 3: At least 3 lanes (1 EB, 1 WB, 1 CLT) will be open during most construction phases.

Revised: March 28, 2008

Traffic signal interconnect Dye Rd. to Ballenger Hwy.

Phase I: East of Manwaring Dr. to I-75

Phase II & III: Linden Rd. to East of Manwaring Dr. and I-75 to Ballenger Hwy.

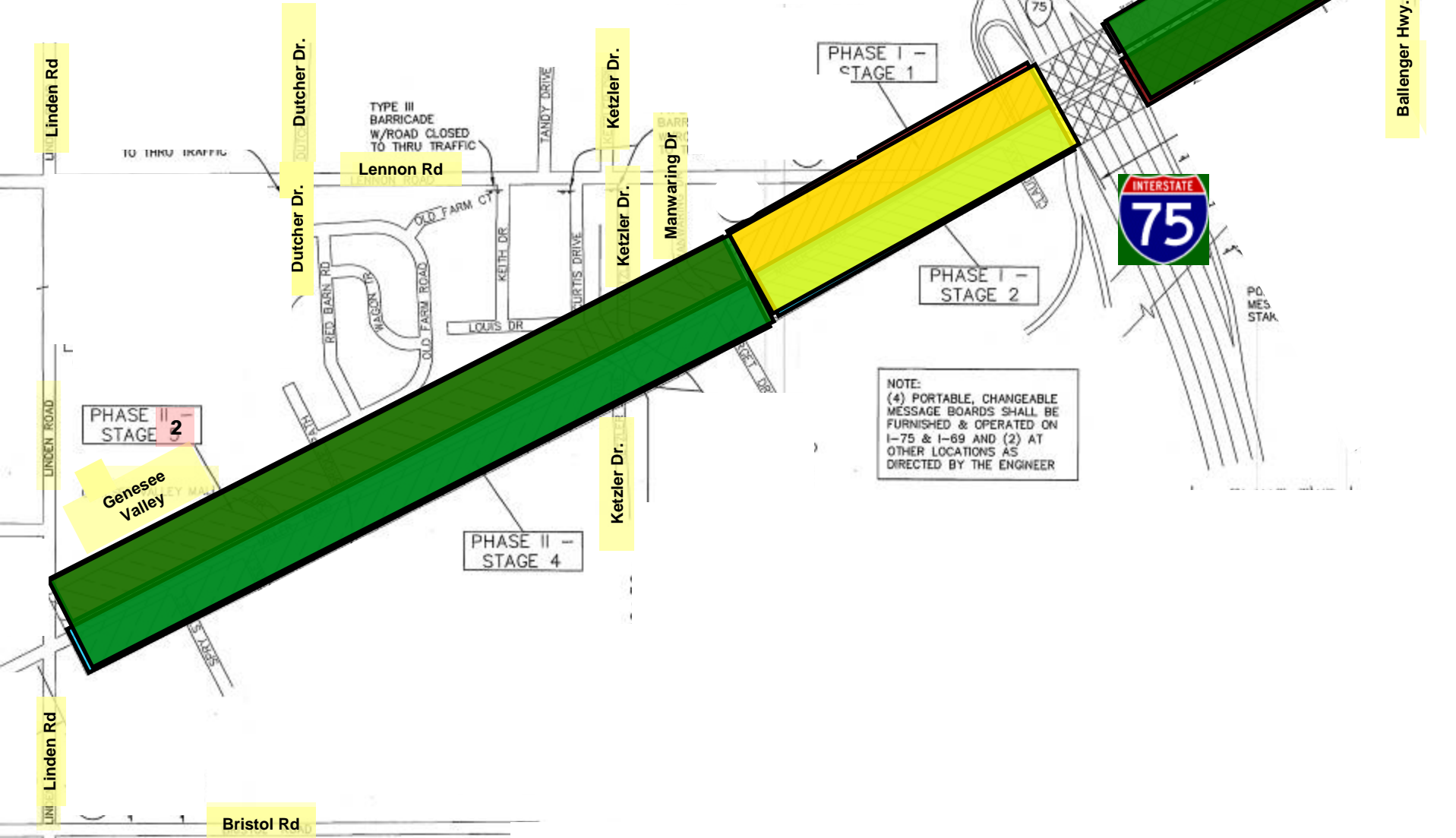
March 5th
Traffic signal
interconnect
begins

May 5th
Traffic signal
interconnect
complete

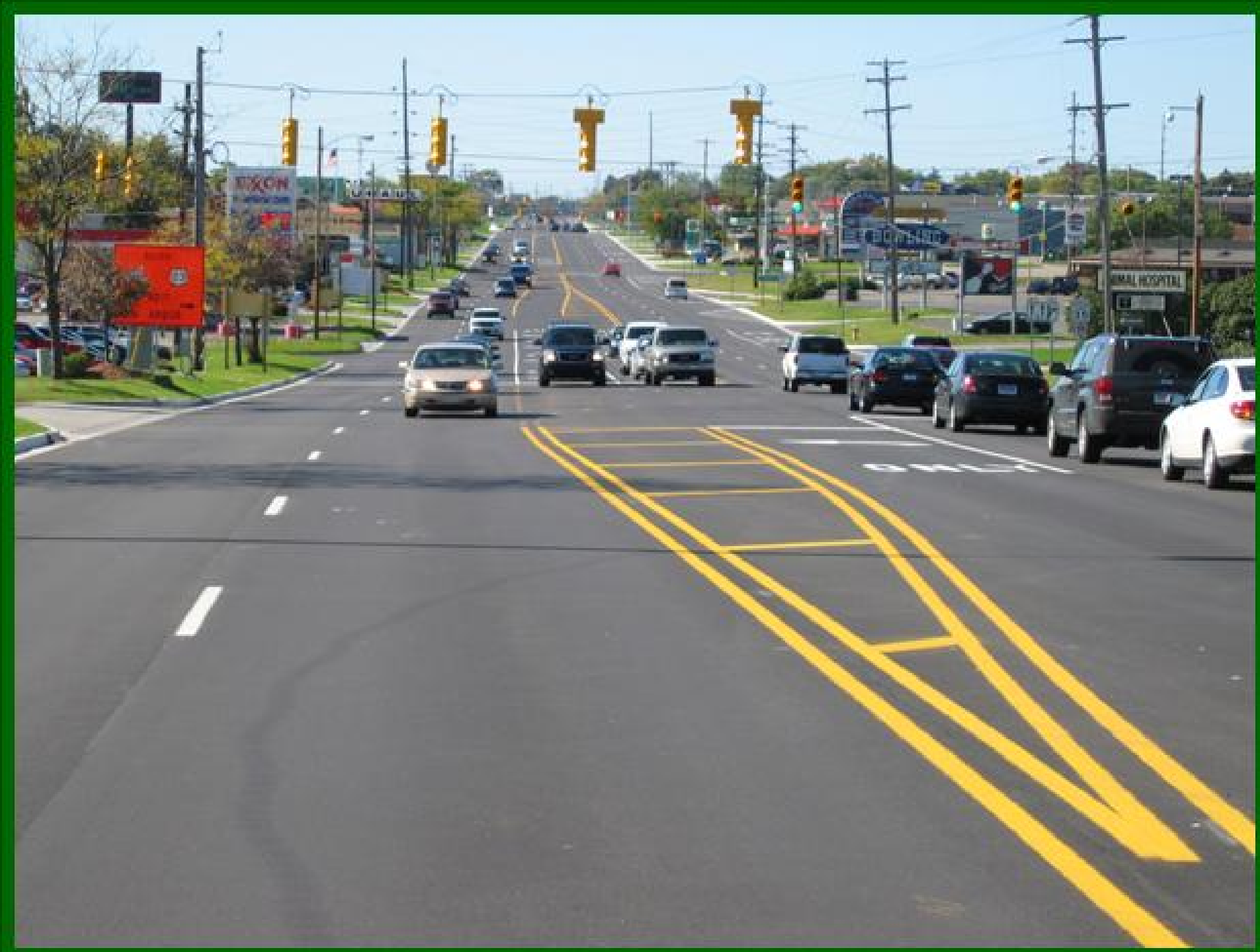
June 14th
Phase II & III
(Linden to Manwaring
and I-75 to Ballenger)
begins

September 15th
Phase II & III
(Linden to Manwaring
and I-75 to Ballenger)
complete

Miller Road Reconstruction Staging Plan









Henderson
GLASS
04-06 CHEVY TRUCK
WPS 100 SPECIAL

SPEED LIMIT
45
NO PARKING

Paving Schedule

- **Largest Tonnage on a Project for Paving Contractor 'Ace Asphalt & Paving' in 2008**
- **Upon Completion of each Phase, the New Roadway was Paved Through the Leveling Course and Opened to Traffic**
- **Entire Top Course Paved During the Night**
- **Expressway Ramps Closed at Night for Paving**
- **HMA Material was Trucked from Ace's Davisburg Plant (30 Miles up I-75)**
- **Paving Contractor was not Prime Contractor**

Unforeseen Challenges

- **Existing 36” Sanitary Force Main vs. Proposed 48” Storm Sewer**
- **Large overages of Subgrade Undercutting Required. Subgrade Plagued with Deleterious Fill Material from Previous Road Projects**
- **Overruns of Driveway Culvert Removals from back when roadway was Open Ditch Drainage**
- **Various Utilities (live and abandoned) in the way of Drainage, Quick Redesigns were Required**
- **Minor Grade Problems were Corrected in the Field**

Final Quantities

- **61,370 Tons of HMA**
 - HMA e mix for Mainline – Trucked From Ace Asphalt Davisburg Plant
 - HMA 13A for Approach Work – Trucked From Both Davisburg & Flint Plants
- **107,608 Tons of Crushed Concrete**
 - Trucked from Zito Construction Red Arrow Facility
 - In Some Cases, Old Concrete from Project was Removed, Steel Extracted, Concrete Recycled as Aggregate Base on Project
- **29,600 Feet of New Curb & Gutter**
- **8,610 Feet of New Storm Sewer**
- **181 New Drain Structures**



This was the Largest Construction Project in Genesee County Road Commission History!

Additional Cooperation!

**UHAUL Decides
to Expand**



**Sonic Comes to
Miller Road**



APAM Award of Excellence

“The County Engineer’s decision to use a HMA pavement surface provided the greatest amount of flexibility in construction and yielded the least impact on motorists and businesses in this highly traveled corridor – a win for the road commission, motorists and the local economy.”

John Niemela

Director, County Rd. Assoc. of Michigan



Thank You!

For more information:

email: **apatsy@gcrc.org**

our website: **www.gcrc.org**

**Alexander J. Patsy, E.I.T.
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