Oakland County's Highway Safety Success Story

Creating a Traffic Safety Culture

James A. "Jim" Santilli, Jr.

TIA's Vice President of Operations

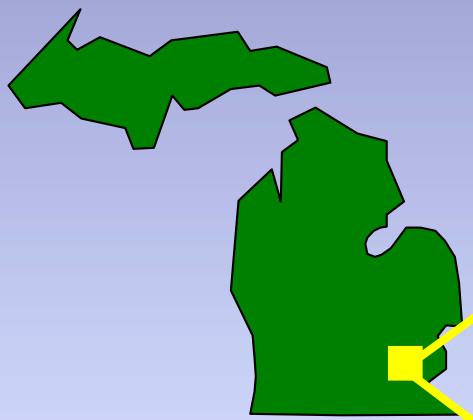
Craig Bryson

RCOC's Public Information Officer

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

ROAD COMMISSION for OAKLAND COUNTY

Geographic Perspective



- 910 square miles
- 1.2 million-plus people
- Urban to rural
- RCOC: Largest county road system in Michigan
  - (2,700-plus miles)

TIA

ROAD COMMISSION for OAKLAND COUNTY

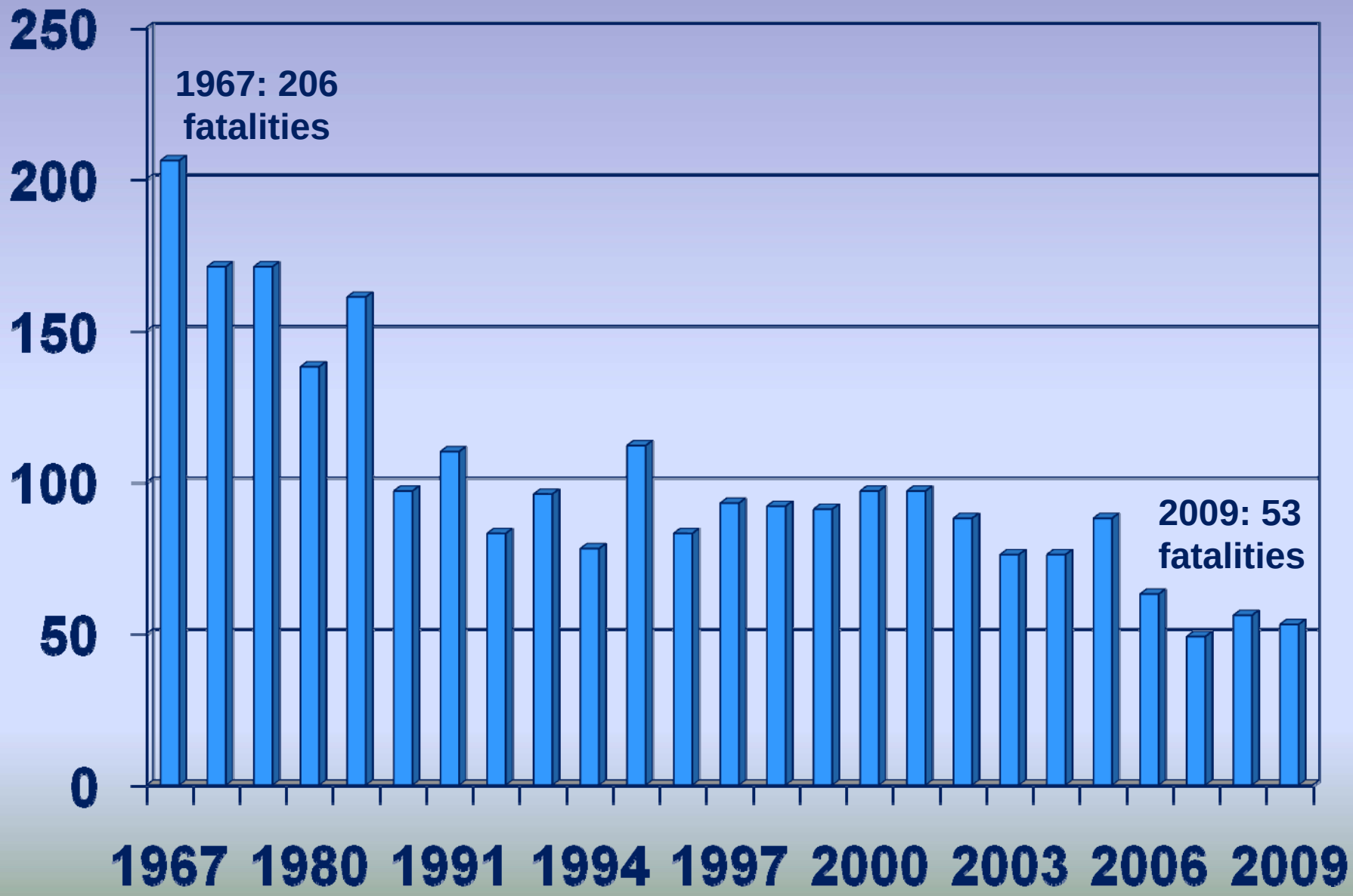
Does Oakland County have a highway safety success story?

- Today, Oakland County's roads are among the safest in the world for an area our size.
- This was no "accident."
- It did not happen over night!

TIA

ROAD COMMISSION for OAKLAND COUNTY

Oakland County's Total Traffic Fatalities



Oakland County's Statistics

	1967	2009
• Population	600,000	1.2 + Mil
• Number of Jobs	250,400	850,000 +
• Daily Commuters from other Counties		300,000
• Vehicle Miles Traveled (VMT)	3 Billion	12.1 Bil
• Traffic Fatalities	206	53

Fatality Rates (per 100 million vehicle miles of travel)

	1967	2009
Oakland County	6.8	0.44
Michigan	6.5	0.91
USA	5.7	1.16

TIA

ROAD COMMISSION for OAKLAND COUNTY

What if Oakland's fatality rate had not been reduced?

- If Oakland County had the same fatality rate in 2009 as in 1967, 770 more people would have lost their lives in that year alone.
- The societal costs of those lost lives would have been approximately $4.6 billion.
- Cost of substantially increased fatalities over the last 43 years = many billions of dollars.

TIA

ROAD COMMISSION for OAKLAND COUNTY

What brought this about?

- Creation of the Traffic Improvement Association of Oakland County (TIA) - 1967.
- Designation of “safety” as the top priority for the Road Commission for Oakland County (RCOC) - 1978.

TIA

ROAD COMMISSION for OAKLAND COUNTY

TRAFFIC IMPROVEMENT ASSOCIATION

What is TIA?

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- A non-profit traffic-safety agency that serves approximately 70 communities in Southeast Michigan.

- Organized in 1967 by top community, academic and business leaders to address Oakland County's fatality rate (higher than the state and nation).

TIA

ROAD COMMISSION for OAKLAND COUNTY

What is TIA?

- **Provides traffic-safety engineering services to communities that can't afford on-staff engineers.**

- **Has received local, state, national and international recognition for its traffic safety efforts.**

TIA

ROAD COMMISSION for OAKLAND COUNTY

Founders

- Included:
  - Michigan State University/Oakland University
  - “Big 3”
  - Banks
  - Road Commission for Oakland County
  - Other business and community leaders

Mission

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

Facilitate engineering, education and enforcement programs that reduce human and economic losses caused by traffic crashes, and improve mobility in Michigan.

TIA

ROAD COMMISSION for OAKLAND COUNTY

Members and Sponsors

- Automotive Companies
- Insurance Companies
- Hospitals
- Road Commission for Oakland County
- Local Communities

Three primary factors in crashes:

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- Driver
- Vehicle
- Roadway

TIA focused on two:

- Driver
- Roadway

TIA

ROAD COMMISSION for OAKLAND COUNTY

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

The Driver

TIA

ROAD COMMISSION
for OAKLAND COUNTY

Education

- Mature Driver Workshops
  - Self evaluating workshop
  - Teaches the effects of aging on driving, compensation skills for the diminished abilities, and risk management and defensive driving skills.
  - Participants learn valuable insight through evaluations of break reaction time, depth perception, cognition, and glare recovery.

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- An optional on-road evaluation is also available.
- Classes are held at area senior centers and senior living facilities at a low cost to participants.

TIA

ROAD COMMISSION for OAKLAND COUNTY

Early Birds Traffic Safety Seminars

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- Quarterly meeting for:
  - Law Enforcement Officials
  - Traffic Engineers
  - Safety Advocates
  - Community Officials

- Timely traffic safety topics are presented and discussed.

TIA

ROAD COMMISSION for OAKLAND COUNTY

Court Ordered Educational Programs

- Educates traffic violators on traffic safety and safe driving practices.
- Courses cover:
  - Traffic Safety
  - Alcohol
  - Personal Responsibility
  - Addictive Behaviors

Enforcement: A Strong Partnership

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- TIA and area law enforcement apply for and receive traffic safety funds from the Michigan Office of Highway Safety Planning.
- The grants allow area law enforcement agencies to increase traffic patrols in their communities.

TIA

ROAD COMMISSION for OAKLAND COUNTY

Enforcement Focus

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- Enforcement focuses on numerous issues including:
  - Occupant Protection
  - Drunk Driving
  - Youth Alcohol Enforcement
  - Child Safety Seats
  - Distracted Driving
  - Intersection Safety
  - Speeding
  - Red Light Running

TIA

ROAD COMMISSION for OAKLAND COUNTY

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- **TIA developed one of the nation's first models of police traffic policies and procedures to ensure uniformity in enforcement.**

- **TIA's Alcohol Enforcement Team project is possibly the longest-standing NHTSA grant in United States.**

TIA

ROAD COMMISSION for OAKLAND COUNTY

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

The Roadway

TIA

ROAD COMMISSION for OAKLAND COUNTY

Engineering

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- A professional traffic engineer (P.E.) provides member agencies with traffic engineering expertise.

- Traffic data (speed, volume, gap, on-street and off-street parking capacity, pedestrian, etc.) is collected and analyzed at member community official requests to evaluate traffic control warrants, determine crash patterns, etc.

TIA

ROAD COMMISSION for OAKLAND COUNTY

TIA
TRAFFIC IMPROVEMENT ASSOCIATION

- **School safety evaluations are conducted to help reduce congestion and improve safety on school sites.**

TIA

ROAD COMMISSION for OAKLAND COUNTY

TCAT

- Traffic Crash Analysis Tool (TCAT)
  - Contains traffic crash data for the entire state.
  - Provides reports that rank intersections and road segments by frequency, severity, and crash rates (Oakland County).
  - Reports can also be based on many variables of data on the UD-10 crash report.
  - Collision diagrams are available for intersections.


ROAD COMMISSION
for OAKLAND COUNTY

What triggered this change at RCOC?

- Creation of the "Highway Risk Management Program"
- <u>Goal</u>:
  - Change RCOC's culture from: "*We've never done it that way*"
  - To: "*We've always done it this way*" (safety orientation)

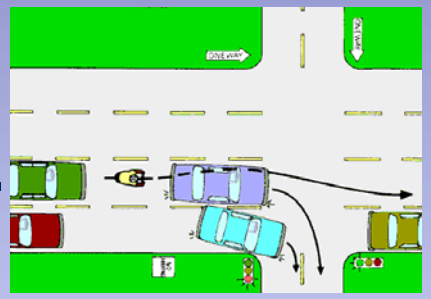
New focus led to RCOC's "safety culture"

- From the start, RCOC has been:
  - TIA's largest local financial supporter
  - The most frequent user of TIA data
- Safety has been the Road Commission's official top priority since 1978.
- Since 1978, safety considerations have been:
  - The most-heavily weighted factor in road-improvement project selection
  - A major focus of road-project design
  - A critical factor in the selection and performance of road maintenance activities (e.g. edge ruts and overlays)
  - The most-critical element of traffic-signal, sign and road-marking decisions

TIA

ROAD COMMISSION for OAKLAND COUNTY

RCOC's "safety culture" *continued*



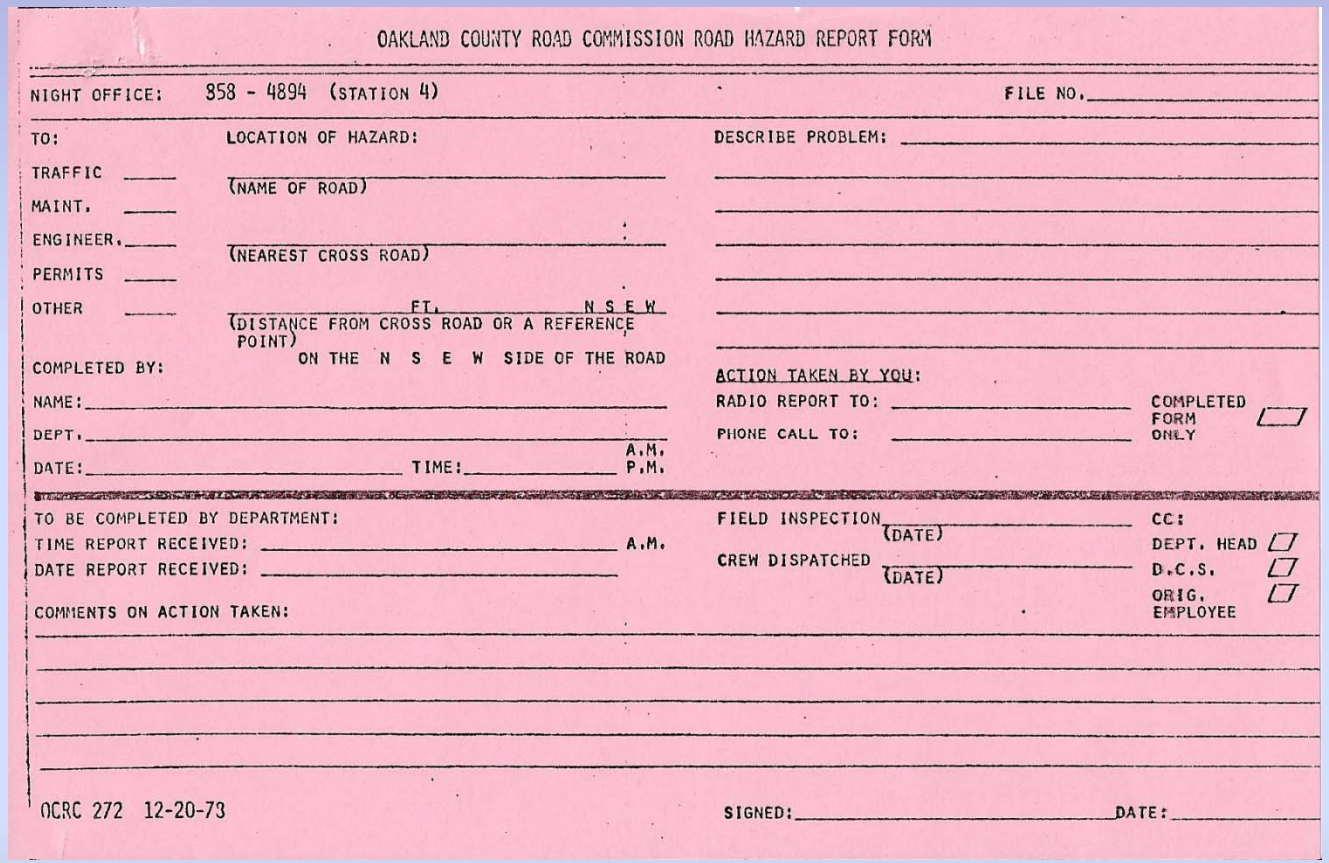
- More extensive safety reviews than ever before.
  - Examples:
    - Safety reviews of top 50 intersections & links based on crash rates, severity and frequency
      - Include field reviews
      - To identify long-term and <u>interim actions</u>
    - Safety audits
      - Multi-departmental reviews of planned projects
      - To ensure they address all safety issues
    - Research on crashes by type
      - Nighttime drinking drivers…

TIA

ROAD COMMISSION for OAKLAND COUNTY

Employee Involvement

- "Pink Slip" program (why pink?)



OAKLAND COUNTY ROAD COMMISSION ROAD HAZARD REPORT FORM

NIGHT OFFICE: 858 - 4894 (STATION 4) FILE NO.

TO:
TRAFFIC ____
MAINT. ____
ENGINEER. ____
PERMITS ____
OTHER ____

LOCATION OF HAZARD:
(NAME OF ROAD)
(NEAREST CROSS ROAD)
FT. N S E W
(DISTANCE FROM CROSS ROAD OR A REFERENCE POINT)
ON THE N S E W SIDE OF THE ROAD

DESCRIBE PROBLEM:

COMPLETED BY:
NAME:
DEPT.
DATE: TIME: A.M. P.M.

ACTION TAKEN BY YOU:
RADIO REPORT TO:
PHONE CALL TO:
COMPLETED FORM ONLY ☐

TO BE COMPLETED BY DEPARTMENT:
TIME REPORT RECEIVED: A.M.
DATE REPORT RECEIVED:

FIELD INSPECTION (DATE)
CREW DISPATCHED (DATE)

CC:
DEPT. HEAD ☐
D.C.S. ☐
ORIG. EMPLOYEE ☐

COMMENTS ON ACTION TAKEN:

OCRC 272 12-20-73

SIGNED: DATE:

- Employee safety

TIA

ROAD COMMISSION for OAKLAND COUNTY

RCOC: Spreading the safety culture to other agencies

- The Oakland County Federal Aid Task Force (includes RCOC and all cities and villages).
- Distributes most federal road funds coming to the county.
- RCOC, cities and villages all agreed to make “safety” a top priority in project selection for the use of federal funds.

TIA

ROAD COMMISSION for OAKLAND COUNTY

How are RCOC, city, and village projects rated?

Category	Maximum Points	
Engineering Considerations	STP	TEDF
• Crash reduction	35	30
• Improve roadway cond.	25	15
• Improve traffic oper.	20	35
• Improve soc., econ. & envir.	9	10
Planning Considerations		
• Importance to system	16	16
• Coord. with other modes	4	4
Funding Considerations		
• Local contributions	4	3
	113	**113**

Recognized 25+ yrs. ago by FHWA as a fair and objective way to select projects for federal funds (one of 4 models).

TIA

ROAD COMMISSION for OAKLAND COUNTY

RCOC's safety culture: End result

- Safety considerations have come to permeate every level of decision making at RCOC.
- Cities and villages followed suit, applying the safety priority to their streets.
- Over time, these important changes resulted in significantly safer roads.
- More than 30 years of federally funded RCOC, city and village road projects selected based on a safety orientation.
- More than $3/4 billion invested in safety-oriented road improvements.

TIA

ROAD COMMISSION for OAKLAND COUNTY

Today at RCOC:

- Reduced fatalities
- Fewer observable “pink slip” problems to report
- Continual monitoring and follow-up

TIA

ROAD COMMISSION for OAKLAND COUNTY

RCOC recognized by FHWA for dramatically impacting fatality rate in 2006 report.

TIA

ROAD COMMISSION for OAKLAND COUNTY

From Federal Highway Administration's "Innovative Intersection Safety Improvement Strategies and Management practices: A domestic Scan" (September, 2006)

CHAPTER 2. SAFETY MANAGEMENT AND COMPREHENSIVE SAFETY PROCESSES

This chapter presents findings related to safety management and comprehensive safety processes that were identified and discussed during the scan. It is believed that these processes have a positive influence on intersection safety, although there have been limited attempts to correlate specific crash reductions with the specific processes. It is important to recognize that several of the items discussed in this chapter are broader in scope than just intersection safety. However, it became apparent during many of the interviews and site visits that intersection safety is positively affected by safety management practices of agencies and communities. For these reasons, safety management should be discussed first, before the focus of this report shifts to traffic control, traffic operations, and intersection geometric treatments.

An Uncompromising Commitment to Safety

In terms of intersection safety, th
due to its concentrated
in Michigan is responsible for the design, operation,
miles of county roads – about half of its public roads – in this large, rapidly urbanizing
north of Detroit. The notable item about the RCOC is its fundamental commitment to safety. Many years ago, the RCOC management essentially made safety a priority in road decisions. The RCOC created a process in which crash data were to be used to measure the safety of its highways. In addition, RCOC instituted formal documentation of its safety performance goals. Not only that, but the RCOC set about to assure that improvements in safety were the direct result. For example, when the Council of Governments solicits projects as part of the regional constrained long-range transportation plan, the RCOC considers safety as one factor in selecting improvement projects.

In deciding where and how Michigan Transportation Economic Development Fund (TEDF-Category C funds) money is distributed, Oakland County employs a project priority rating that assigns a weight of 30 points out of a possible 103 points for a project's assessed potential to reduce crashes. Table 1 (*page 8*) presents the factors and their associated weights used in the rating scheme. For the application of Surface Transportation Program (STP) funds, they employ a slightly different project priority rating scale that actually weights crash reduction even higher (35 points out of 103 points). Oakland County's 40 cities and villages, which are eligible recipients of both TEDF (C) and STP funds, also had to agree to the point system (in effect, the Road Commission and the cities/villages compete for the use of these funds). Safety improvements have been taking place on both county roads and city/village streets across the county.

Along the way, the RCOC has created a culture of safety that has allowed significant improvements in highway safety while growing from a county of 300,
million people in 2004. During the scan team's visit, the RCOC indicated that
achieve this safety culture by building safety as a highly weighted factor into federal
decisions, by requiring safety to be the Number One priority of the agency so that it is driving decisions, and by getting good crash data.

"In terms of intersection safety, there was one public agency that stood out…due to its concentrated attention to safety…. The notable item about RCOC is its fundamental commitment to safety."

"RCOC has created a culture of safety that has allowed significant improvement in highway safety while growing from a county of 600,000 to 1.2 million."

Performance-Based Safety Systems

To achieve appreciable and meaningful [illegible] indicated that there is a pres[illegible] order to advance the safety agenda in the United States, especially with respect to intersection safety, systems are needed to ensure that the safety performance can be measured and compared to performance standards. Many highway agencies do not have such a system in place and point to a variety of obstacles and impediments; however, the RCOC has implemented a system. Agency administrators learned years ago that it was not simply enough to claim expected safety benefits from projects. Rather, RCOC learned that it needed to evaluate the effects of its road decisions on safety, specifically crashes. Hence, it was determined that continuously monitoring the safety performance of roads was needed, in terms of reported crash frequency, crash rates, and crash severity. This, in turn, allowed better decisions to be made in roadway investments. It is because of the systems put in place by the RCOC that the organization can cite the statistics in table 2, which show that over a period of nearly 40 years, despite a four-fold growth in travel in the county, traffic fatalities have been reduced by 64 percent and traffic fatality rates have been reduced by more than 91 percent.

Table 2. Changes in Oakland County's Population[illegible]T, Crash Fatalities, and Crash Fatality Rate.

	1967	2004
Population	300,000	
Annual Vehicle Miles Traveled (VMT)	3.0 Billion	1[illegible]
Traffic Fatalities	206	75
Traffic Fatality Rates, in fatalities per 100 MVM:		
Oakland County, Countywide average	6.8	0.57
Michigan, Statewide Average	No data	1.1
United States, National Average	5.3	1.4

MVM = Million Vehicle Miles
Source: TIA and SEMCOG

"Systems are needed to ensure that safety performance can be measured and compared to performance standards. Many highway agencies do not have such a system in place…RCOC has implemented a system."

"It is because of the systems put in place by RCOC that the organization can … show that over a period of nearly 40 years, despite a four-fold growth in travel … traffic fatality rates have been reduced by more than 91 percent."

What were the key elements of success for RCOC?

- Strong, consistent, and continuous support from the top.
- Availability of data and analysis (TIA).
- Employee buy-in.
  - Annual Safety Banquet
  - Recognition of success agency-wide.
    - Safe Driver - 50 years
    - Safe Worker - added

TIA

ROAD COMMISSION for OAKLAND COUNTY

Recognizing All Employees
(May 2007)

TIA

ROAD COMMISSION for OAKLAND COUNTY

Safety orientation continues with Oakland communities

- Example: Novi Police Dept.
- Received the 2009 Award for Excellence in Traffic Safety.

- For reducing crashes in and around major intersections.
- Novi PD did this by using TIA data to focus enforcement.
- Resulted in a 14.6% reduction in crashes.

TIA

ROAD COMMISSION for OAKLAND COUNTY

Bottom line?

Think about it …

Many individuals whose lives we saved over the years may be parents and grandparents today.

TIA

ROAD COMMISSION for OAKLAND COUNTY

That means…

There are residents of Oakland County today who would not have been born if we hadn't reduced our fatality rate.

TIA

ROAD COMMISSION for OAKLAND COUNTY

Contact Information

James A. “Jim” Santilli, Jr.

Vice President of Operations

Traffic Improvement Association

1827 N. Squirrel Road

Auburn Hills, Michigan 48326

Office: (248) 334-4971

E-Mail: jsantilli@tiami.us

Website: www.tiami.us

TIA

ROAD COMMISSION for OAKLAND COUNTY

Contact Information

Craig Bryson, APR

Public Information Officer

Road Commission for Oakland County

31001 Lahser Road

Beverly Hills, Michigan 48025

Office: (248) 645-2000

E-Mail: cbryson@rcoc.org

Website: www.rcocweb.org

QUESTIONS ???

TIA

ROAD COMMISSION for OAKLAND COUNTY

TIA

ROAD COMMISSION
for OAKLAND COUNTY