

A Guide to

Michigan's Road-Funding Crisis

Provided by:

The Road Commission for Oakland County

2019

Visit RCOC online at www.rcocweb.org

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The Road Commission for Oakland County **(RCOC)**

Below are some interesting facts about RCOC.

RCOC:

- ⇒ 420 employees as of December 2018 (this is 136 fewer than in 2007 and less than RCOC had in 1960)
- ⇒ \$155 million budget (FY 2019)
- ⇒ Has jurisdiction over more than 2,700 miles of county roads
- ⇒ This is the largest county road system in the state and the 2nd largest system overall (2nd only to the state highway system)
- ⇒ Nearly 760 miles of RCOC roads are still gravel
- ⇒ RCOC also maintains:
 - Nearly all 230 miles of state highways in the county (1,561 lane miles -- under contract with the Michigan Department of Transportation)
 - 90% of all traffic signals (1,500)
 - 150,000 road signs
- ⇒ Like MDOT, RCOC has NO taxing authority

Who is Responsible for Michigan's Roads?

The Three Levels of Road Jurisdiction in Michigan:

In order to understand the road issues in Michigan, it is important to first understand who is responsible for the roads. In Michigan, nearly all roads fall into one of three categories of jurisdiction:

1. **State highways:** MDOT -- 9,700 miles (8% of all roads in Michigan)
2. **County roads:** County road commissions/departments -- 89,300 miles (74%)
3. **City or village streets:** Cities and villages -- 21,108 miles (18%)

The following section provides a detailed look at each of these levels of jurisdiction.

Michigan has:

- The 8th largest public road system in the nation,
- The 6th largest local system (county, city and village roads),
- The 3rd largest county road system and
- The 28th largest state highway system (below average; half the size of Ohio's state highway system).

Roads in Oakland County

In Oakland County, as noted previously, the Road Commission for Oakland County (RCOC) is responsible for the 2,700-plus miles of county roads. Additionally, Oakland's cities and villages are responsible for another 2,700 miles of city/village streets. Finally, the Michigan Department of Transportation has jurisdiction over approximately 230 miles of state highways in Oakland County, for a total of more than 5,600 miles of public roads in the county.

RCOC's road system is more than 1,000 miles larger than the county road systems in either Wayne or Macomb counties and more than 750 miles larger than the system in Kent County.

State Highways

State highways fall under the jurisdiction of the Michigan Department of Transportation (MDOT). Included under this heading are all highways with an "M," "US" or "I" in their names. Examples include M-1 (Woodward Ave.), M-59, US-24 (Telegraph Road), I-75, I-696, etc.

All freeways and interstate highways fall under MDOT jurisdiction, as do many major inter-county roads.

County Roads

County road commissions have jurisdiction over all public roads, except state highways, in all townships in the state. Additionally, some county road commissions (including RCOC) have jurisdiction over some of the primary roads in the cities and villages in their counties.

City & Village Streets

Over the years, the cities and villages in Michigan have taken jurisdiction over some, or in some cases, all of the roads within their boundaries. When a township, or part of a township, incorporates and becomes a city or village, the road commission has one year in which to opt to turn over jurisdiction of county roads to the new city or village. After that first year, jurisdiction of any road may be transferred either way, if agreed upon by both parties.

The cities and villages have jurisdiction over all residential or subdivision/neighborhood streets within their boundaries. Whether a city or village or the road commission has jurisdiction over major streets within the community depends upon a variety of factors and differs from community to community.

Why are Michigan’s Roads in the Condition They are in, and Why are Other States’ Roads in Better Shape?

To understand where Michigan is today in terms of road funding, it is necessary to understand where we have been in the past.

For the last 50-plus years, Michigan has done a fairly decent job of funding such important areas as health, education and welfare. Roads, unfortunately, are a different story.

As the chart below indicates, since at least 1964, roads have been Michigan’s “forgotten priority” — Michigan has continuously ranked in the bottom nine states in per capita state and local expenditures on roads. Until the 2017 gas tax increase, in which the state raised Michigan’s gas tax by 7.3 cents per gallon (to 26.2 cents per gallon), Michigan still ranked in the bottom four states. Today, Michigan remains among the bottom nine states.

Given this track record, it should be no surprise that Michigan’s roads are in worse shape than those in many other states. Compounding this situation is the fact that many of the states that have for years ranked higher than Michigan in per capita road spending don’t have the freeze/thaw cycles that Michigan experiences each spring and fall, and which take a tremendous toll on road surfaces. Nor do road agencies in many of these states spend millions of dollars on snowplowing and salting.

Per Capita State & Local Expenditures (Michigan’s Rank in the Nation)

Expenditures	1964*	1974*	1984*	1992*	2010*	2015**
Health	5	8	9	12	13	19
Education	11	7	10	11	9	33
Welfare	31	5	3	7	32	29
Roads	43	44	42	49	50	47

Sources:

*U.S. Census Bureau

**Urban Institute/Brookings Institute Tax Policy Center

The situation for RCOC, road commissions in general and MDOT

RCOC

The decade between 2007 and 2017 was rough on RCOC financially. As a result, RCOC had to reduce its staff levels. This was done through attrition. Here are the numbers:

RCOC Staffing Levels:

1962:	425
1974:	548
2007:	556
2018:	420 (as of December 2018)

As can be seen, RCOC had only eight more employees in 2007 than in 1974. Today, it has 128 fewer employees than in 1974 and five fewer than in 1962. And yet, consider all the changes that have occurred in Oakland County since 1974 or since 1962. In the last 50 years, the county has seen incredible growth in residential and business populations as well as in the road system, with more road miles constructed as well as many roads widened and substantial numbers of road signs and signals added.

So, how did RCOC continue to meet the rapidly growing demands of the road system without an equivalent increase in staff? Privatization. RCOC has privatized more functions than any other county road agency in Michigan, though it has done so only when it made business sense.

Here are some additional points that illustrate RCOC's current challenges:

- In 2018 about 50 of the unfilled positions are those of snowplow drivers
- Road equipment deficit: \$25 million (it would cost \$25 million to purchase the replacement equipment needed today)
- As a result of these numbers, all services provided by RCOC have been reduced

Road commissions in general

RCOC is not the only Road Commission that suffered during the financial crisis. Consider the following:

- 74 Michigan road commissions (of 83) eliminated staff positions during the last decade.
- 10 actually shut down for 1-2 weeks to avoid layoffs at times during the last decade.
- Several northern counties were forced to take the extreme move of restricting weekend plowing during the height of the crisis.
- 38 road commissions have actually returned paved roads to gravel because they could not afford to continue to patch the roads or to resurface them. To date, more than 100 miles of formerly paved roads have been returned to gravel.
- 79 road commissions have reduced maintenance, preservation or construction programs.

MDOT

The Michigan Department of Transportation (MDOT) was also been forced to make significant reductions due to the financial situation. Here are some examples:

- MDOT mandated a reduced level of winter maintenance services on its roads:
 - It divided all its roads into either “blue” or “orange” routes. Those that are designated as “orange” continue to receive the same level of service as always. “Blue” routes, however, now receive a lower level of service, including reduced plowing and salting on weekends and after normal business hours on weekdays. Woodward Ave. in Oakland County is among the “blue” routes.
 - It has reduced the amount of worker overtime allowed by “contract counties” (those counties, such as Oakland, where the county road commission maintains state highways on behalf of MDOT).
- MDOT has reduced the level of all aesthetic maintenance activities including mowing the grass along state freeways, litter pickup along freeways and other state routes, street sweeping state routes, etc.

State Road Funds



So, where does the money come from to maintain Michigan’s roads? The two largest sources are the state-collected gas tax and the vehicle-registration fee (license plate fee).

Traditionally, the gas tax was the largest single source of road funding in Michigan. However, vehicle-registration fee revenues surpassed the gas tax in recent years, as gas consumption declined statewide and vehicle fuel economy continued to improve.

Historically, Michigan's gas-tax rate has been below the national average, making it a major contributor to the state's poor showing in per capita road-funding comparisons. This finally changed on Jan. 1, 2017, when the gas tax rose from 19 cents per gallon to 26.3 cents per gallon as a result of the state’s 2015 road-funding package (which is explained on pages 12 and 13). The table below lists the gas and diesel tax rates for the nation, and shows Michigan’s rank for each, both before and after Jan. 1, 2017.

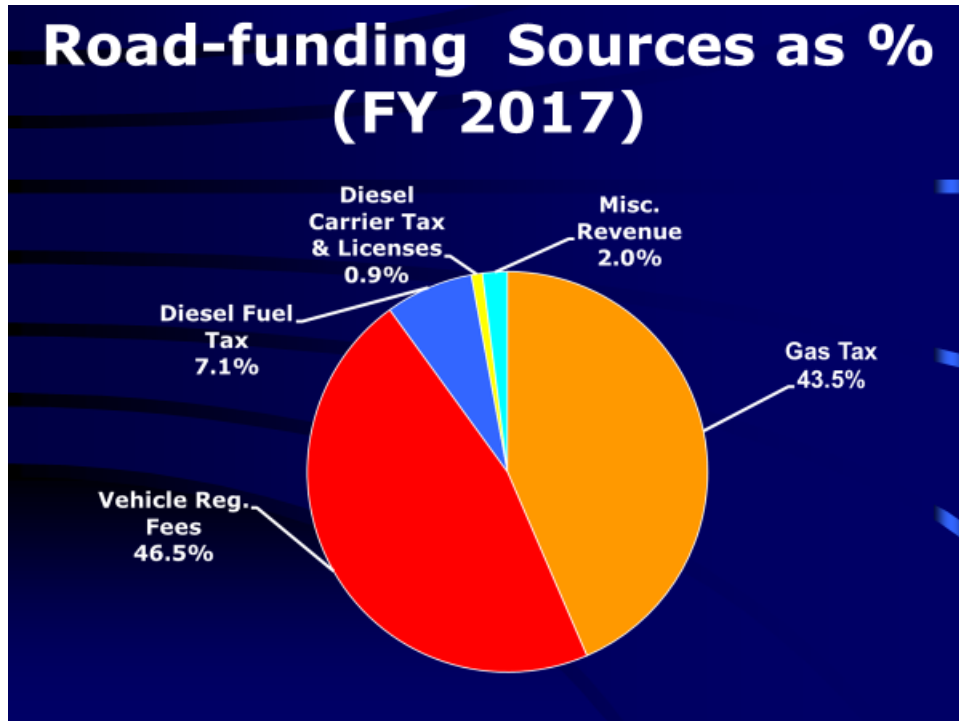
State Fuel Tax Rates (2018)

<u>State</u>	<u>Gas</u>	<u>Diesel</u>	<u>State</u>	<u>Gas</u>	<u>Rank</u>	<u>Diesel</u>	<u>Rank</u>
Washington	44.5	44.5	New Hampshire	22.2		22.2	
North Carolina	35	35	Colorado	22		20.5	
Rhode Island	33	33	Arkansas	21.5		22.5	
Idaho	32	32	West Virginia	20.5		20.5	
Iowa	31	32.5	Louisiana	20		20	
Wisconsin	30.9	30.9	Texas	20		20	
Main	30	31.2	Tennessee	20		17	
Oregon	30	30	Virginia	19.83		23.33	
California	30	13	Illinois	19		21.5	
Utah	29.4	29.4	Michigan (2016)	19	Tie -- 33	15	42
Minnesota	28.5	28.5	Arizona	18		26	
Ohio	28	28	Mississippi	18		18	
South Dakota	28	28	Indiana	18		16	
Montana	27	27.75	New Mexico	17		21	
Nebraska	26.8	26.8	Hawaii	17		17	
Michigan (2018)	26.3	26.3	Missouri	17		17	
Georgia	26	29	Alabama	16		19	
Connecticut	25	50.3	South Carolina	16		16	
Maryland	24.6	25.35	Oklahoma	16		13	
Kentucky	24.6	21.6	Vermont	12.1		28	
Kansas	24	26	New Jersey	10.5		13.5	
Massachusetts	24	24	Alaska	8.95		8.95	
Nevada	23	27	New York	8.05		8	
North Dakota	23	23	Florida	4		4	
Wyoming	23	23	Pennsylvania	0		0	
Delaware	23	22					

What are the other sources of state road funds?

In addition to the gas tax and vehicle-registration fee, there are several other state-collected revenues that contribute to road funding in Michigan. The pie chart below shows those sources and indicates what percentage of total state road funds each source accounts for.

It is interesting to note that Michigan is also one of only seven states in the nation that applies its full sales tax (6%) to gas and diesel sales. In Michigan, none of the revenue from that sales tax goes to roads.



How are state-collected road funds distributed?

The state Legislature addressed the question of the distribution of state-collected transportation funds through the creation of a road-funding formula that is spelled out in Michigan Public Act 51. The formula divides the funds among the state, county road agencies and cities & villages.

In the act, the Legislature established a single “pot” for state-collected road funds known as the **Michigan Transportation Fund (MTF)** and then created the MTF distribution formula. According to the formula, money is first taken off the top of the MTF for a number of items including the Bridge Fund and transit. The formula then calls for 39.1 percent of the remaining money to go to MDOT (with jurisdiction over 8 percent of Michigan’s roads), 39.1 percent to go to county road commissions (with jurisdiction over 75 percent of Michigan’s roads) and 21.8 percent to go to cities and villages (with jurisdiction over 17 percent of Michigan’s roads).

What's wrong with the MTF?

As shown previously, Michigan's state-collected gas tax rate was lower than that of the majority of other states in the nation for many years. Michigan's diesel tax rate was even worse. The ranking of both improved with Michigan's 2017 fuel-tax increases.

But it will take Michigan many years to make up for the decades during which it underfunded its roads compared to much of the rest of the nation. Consider that between 2001 and 2011, RCOC's MTF revenues declined by a cumulative **5.3 percent**. During this same period, inflation continued to rise, making most products and services more expensive.

But that's not the whole story. Many of the costs associated with critical road maintenance activities have increased far faster than the consumer rate of inflation. Here are some examples from RCOC for this period:

Michigan Transportation Fund (MTF) Revenues (statewide)

<u>Year</u>	<u>% Change</u>
FY 2005 to FY 2015	- 2%

RCOC Expenses, FY 2005 to FY 2015

<u>Item</u>	<u>% Cost Increase</u>
Plow Blades	34%
Asphalt	66%
Salt	91%
Cold Patch	50%
12-Yard Dump Truck	44%

New road funding package

After years of debating the issue, in 2015, Michigan's Legislature finally addressed road funding, enacting a package of bills to bring new money to roads.

On Nov. 10, 2015, Governor Rick Snyder signed the package into law. While it was good to finally see action in Lansing, and while the package has certainly increased road funding, it was not exactly the package many in the road industry were looking for.

The package included a series of seven bills that will potentially generate \$1.2 billion in new road funding annually for Michigan. However, the full amount will not be seen until 2021.

Of that amount, \$600 million is coming from an increase in the gas and diesel taxes and vehicle-registration fees which began Jan. 1, 2017. As noted, the previous gas-tax rate of 19 cents per gallon rose to 26.3 cents per gallon.

The diesel-tax rate was raised from 15 cents per gallon to 26.3 cents per gallon, bringing truckers in line with what others are paying at the pump.

Beginning Jan. 1, 2022, the fuel-tax rates will also be indexed to inflation. What does this mean? Rates on gasoline and diesel will rise each year based on the Consumer Price Index (CPI -- the rate of inflation) or 5 percent, whichever is less. This will ensure that the "buying power" of the fuel tax revenues does not decline each year, which is what has happened in the past.

Vehicle-registration fees increased by 20 percent beginning Jan. 1, 2017. Additionally, there was an increase in registration fees for hybrid and electric vehicles; however, this is a small segment of the automotive population on our roads today.

Half the funds are not guaranteed

There is a concern, however, with half the revenue in the package. While \$600 million is already coming into the state through the increased fuel taxes and vehicle registration fees included in the package, the second \$600 million annually will come from the state's General Fund. The state Legislature will have to take action each year, beginning in this year (2019), to allocate those dollars from the General Fund. Traditionally, road funding in Michigan -- from fuel taxes and the vehicle registration fee -- has been constitutionally protected, meaning those dollars could not be used on anything else.

Using General Fund dollars for transportation means there will be political and financial pressures on the Legislature that may cause dollars to be diverted from roads in the future.

When passing the package, the Legislature hoped the economy would continue to grow and that other significant crises did not emerge. A robust economy and few competing needs would mean the General Fund would continue to grow and allow the \$600 million to be taken from the fund without having to cut any other programs. Only time will tell if that will be the case.

Of course, history tells us that the economy is cyclical, and that it periodically slows down. If that happens – or if the Legislature opts to direct General Fund dollars toward other needs, legislators would likely have to decide whether to cut road funding or some other important state service.

The road-funding package also provided slight income-tax and homestead property-tax cuts as well. However, those will reduce the dollars available in the state's General Fund.

What does the package mean for RCOC?

The latest estimate is that the package will generate a little over \$40 million in new funds annually when fully implemented in 2022, assuming the Legislature comes through with the General Fund dollars.

In 2017, RCOC received approximately \$14 million in new funding. In 2018, the agency received about \$20 million in new funding (compared to its 2016 allocation). Stay tuned for further details as they become available.

Fortunately in 2017, 2018 and 2019, the state Legislature and the governor also designated additional state dollars to roads, which is greatly appreciated.

Others agree: Michigan's roads are in poor condition

It's not just Michigan's road agencies that have concluded our roads need help. One group addressing this issue is the **Michigan Asset Management Council**, which was appointed by the governor to apply the philosophy of asset management to the state's transportation infrastructure. Asset management is a philosophy created in the private sector and intended to lead to the most efficient management of assets. The Council documents the condition of the road system annually, and the data is clear: The road system has continued to deteriorate.

Here are some conclusions reached by the Asset Management Council based on data it collected:

- Since 2004, 20 percent of Michigan's "federal-aid-eligible" roads (those on which federal road funding can be spent) have declined from "fair" or "good" condition to "poor" (one third – 40,000 of 122,000 miles – of Michigan's roads are federal-aid eligible).
- Today, nearly 50 percent of these roads are in poor condition, while approximately 15 percent are in good condition. In Oakland County, approximately 60 percent of the federal-aid-eligible roads are in poor condition.
- Roads not eligible for federal aid (40,000 miles of paved roads), show even greater signs of failure, with 56 percent in poor condition and only 11 percent in good condition.

Congestion

How big is our congestion problem in Oakland County?

For decades, Oakland County experienced the most growth of any county in Michigan. As a result, today Oakland has the most congested freeways and local roads in the state.

In fact, RCOC has identified more than \$2 billion in congestion-related road improvements needed just on county roads over the next 10 years – for which there is no funding.

Congestion is BAD – and as the economy grows, it will get worse in Oakland County.

The human cost of congestion

In addition to being an inconvenience for the hundreds of thousands of motorists driving in Oakland's congestion every day, there is a more critical side effect of congestion. Studies have documented that increased congestion leads to:

- More traffic crashes
- More traffic fatalities & injuries
- More pedestrian injuries
- More air pollution
- More money spent on gas

So, why do we have a congestion problem in Oakland County? It is due to a number of factors. However, among the most critical factors are:

- Oakland's economic development & growth success over the last several decades.
- A lack of funding to address the traffic growth that came with that economic development.
- Low population densities and free parking in suburbs are deterrents to transit – there are few viable alternatives to automobile travel in much of Oakland County, and the way the county has developed makes it unlikely that this will change any time soon.

Changes in commuting patterns

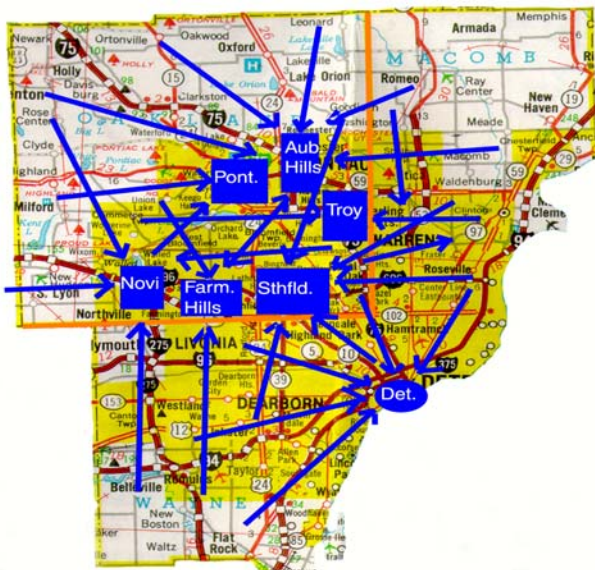
Consider the changes seen in commuting patterns in Southeast Michigan over the last 60 years. As the image at right conveys, more than 60 years ago, the vast majority of commuter trips involved traveling into and out of downtown Detroit. As a result, the road system was designed to handle this commuting pattern.



Over the years, however, as development occurred in the suburbs, those commuting patterns began to change. Today, commuters travel every direction on a road system that was not designed to handle this form of commuting. In fact, today, there is more east/west traffic on I-696 than there is north/south traffic on I-75 (approximately 200,000 vehicles per day travel I-696 east of I-75, compared to 164,000 vehicles on the busiest stretch of I-75, just south of I-696).

One result of this change is that today nearly 400,000 people who live outside of Oakland County commute into the county each day to work. The number of Macomb County residents alone who work in Oakland County grew by nearly 50,000 between 1980 and 2010. While Detroit is seeing significant revitalization, the changes have not yet had a significant impact on traffic patterns.

The map below gives an idea of the type of commuting patterns we see today in Southeast Michigan, and the table at right below indicates some of the changes that have caused the revised commuting patterns.



Change in commuting patterns

1980	2010	Difference
<i>Oakland residents working in Detroit</i>		
59,000	49,400	-9,600
<i>Detroit residents working in Oakland</i>		
33,000	38,130	+5,130
<i>Oakland residents working in Macomb</i>		
31,000	37,812	+6,812
<i>Macomb residents working in Oakland</i>		
44,000	90,000	+46,000

Federal Funds



Most road agencies in Michigan rely on federal road funding, generated by the 18.4-cent-per-gallon federal gas tax, for major road improvements, such as road widening projects that help address congestion. While federal funds coming to Michigan have increased slightly in the last couple of years, the increase has been minimal for most road commissions. Besides, federal funds can only be spent on federal-aid-eligible roads, which represent one third of all public roads in Michigan.

That's because the federal road funds coming to Michigan are spread among the Michigan Department of Transportation (MDOT), county road agencies and cities and villages. After deductions for special programs, current legislation and historical tradition set the division as follows:

75% = **MDOT** (approx. 10,000 miles of roads eligible for use of federal funds)

25% = **Divided among county road commissions, cities & villages statewide** (30,000 miles eligible)

That means by the time the 25 percent local portion of any increase in federal road funding is spread across the 83 county road agencies and 533 cities and villages in Michigan, no single agency receives a very substantial increase.

Even if federal funding were increased dramatically, there would never be enough federal funding to solve all of Oakland County's congestion problems (remember, RCOC has identified more than \$2 billion worth of unfunded congestion needs over the next 10 years). That means if Oakland County ever wants to address its congestion problem, it will have to solve the problem itself: Neither the federal or state governments is going to bail Oakland County out of its congestion problem.

What is RCOC doing to stretch its funding?

While the increased road funding approved by the Michigan Legislature in 2015 is helping improve the state's roads, the leadership at RCOC is also constantly seeking ways to make the agency's revenue stretch as far as possible. Following are some examples of what RCOC is doing to improve efficiency or reduce costs.

Shared Services

For years, RCOC has worked with local communities and other road agencies in an effort to identify cost savings through shared services. The most notable example is RCOC's maintenance of the 230 miles of state highways in the county on behalf of the Michigan Department of Transportation (MDOT). RCOC has partnered with MDOT to maintain the state trunklines in the county since at least 1932. This includes everything from plowing and salting in the winter to pothole patching and guardrail repair in the summer.

But, RCOC's efforts to reduce costs by sharing services do not stop with MDOT. In fact, RCOC has agreements with many Oakland County cities and villages in which the cities or villages provide either winter road maintenance (plowing and salting) or summer road maintenance (pothole patching, etc.) on some county roads in exchange for a portion of the MTF dollars RCOC receives for those roads. These agreements allow the local communities to augment this funding with additional dollars of their own, enabling them to provide a higher level of service than RCOC could, while freeing up RCOC crews to work on other roads. It's a win/win situation.

Additionally, RCOC provides services, at cost, on some city or village roads where it makes sense. For example, the City of Lathrup Village has several gravel subdivision streets. However, it would not make sense for the city to purchase equipment to grade and chloride just a few gravel roads, so the community contracts with RCOC to provide these services.

RCOC also collaborates with Oakland County general government and a number of communities in the county to share customer-contact monitoring software, which allows all parties to purchase the software less expensively. The software ensures all agency contacts with residents or businesses are logged, tracked and, where appropriate, responded to.

Other areas where RCOC has taken a lead role in cost savings include:

- Joining with other agencies to bid for materials, including salt. This has resulted in lower salt prices than MDOT for a number of years.
- Using bid language that allows other agencies to piggyback on various RCOC materials bids, thus allowing them to take advantage of our economy of scale and get better prices than they could get on their own.
- Operating and maintaining traffic signals for MDOT and all but one of the 40 cities and villages in Oakland County.
- Fabricating signs for other agencies as needed.
- Selling stock signs, sign posts, etc. to other agencies at cost.
- Partnering with cities and villages for a collective road striping bid that generates better costs for all involved.
- Maintaining crash attenuators, road signs and lane delineators for MDOT.
- Providing storm drainage cleaning for local communities when needed.

Privatization

As noted previously, RCOC has, for years, turned to privatization to save money. In fact, RCOC has privatized more activities than any other Michigan road commission – but only when it makes business sense.

The table below lists activities that RCOC has either fully or partially privatized.

ACTIVITY	% PRIVATIZED
- Curb Sweeping	Totally
- Pavement Marking (Legends & Striping)	Totally
- Large Tree Removal	Totally
- Simple Asphalt Resurfacing	Totally
- Shoulder Paving	Totally
- Concrete Repair	Totally
- Joint and Crack Sealing	Totally
- Slope Mowing on State Highways	Totally
- Bridge Inspection	Totally
- Guardrail Repair on State Highways	Totally
- Carpet Cleaning & Repair	Totally
- Vehicle Windshield Replacements	Totally
- Vehicle Body Work	Totally
- Oil Change -- Autos/Light-Duty Trucks	Totally
- Light Truck & Auto Repair	Partially
- Boulevard Mowing	Partially
- Bridge Repair	Partially
- Base Repair	Partially
- Engineering (Road & Bridge Design)	Partially
- Signal Design	Partially
- Signal Installation / Modernization	Partially

- Heavy Equipment & Truck Repair	Partially
- Larger Road Maintenance Project (such as culvert replacements, dredging, etc.)	Partially
- Soil and Material Testing	Partially
- Gravel Spreading	Partially
- Boom Inspections & Repairs	Partially
- Building Maintenance	Partially
- New Dump Truck Outfitting	Partially
- Building Janitorial Services	Partially
- Building Windows Repair/Replacement	Partially
- PM Service, Large Trucks	Partially
- Building HVAC and Plumbing Work	Partially
- Storm sewer clean-out	Partially
- Sign fabrication	Partially
Other	
- Winter & Summer Maintenance	Partially (communities doing some work)

Technology

RCOC has long been recognized as a leader in the field of transportation technology. In fact, RCOC’s **Faster And Safer Travel – Through Routing & Advanced Controls (FAST-TRAC)** system of “adaptive” traffic signals was one of the first Intelligent Transportation Systems (ITS) deployments on arterial roads in the nation and, today, remains the second largest such system in the country.

While this system has provided substantial safety benefits, it has also served to save tens of millions of dollars. It does this by increasing the efficiency of signalized intersections, allowing more traffic to pass through the intersections more quickly than traditional traffic signals. This allows the existing road system to handle more traffic, thus reducing congestion without building new lanes.

Another example of RCOC’s use of technology to reduce costs is light-emitting diode (LED) traffic signals. RCOC was one of the first local road agencies in Michigan to initiate the conversion of traffic signal bulbs to LEDs, which use far less electricity and last far longer than traditional incandescent bulbs.

Today, RCOC is one of the few public agencies in the state that not only widely uses LEDs, but also has a long-term plan for replacing LEDs. Many other road agencies have adopted the use of LED bulbs, but, because of their longevity, have not planned for the eventual replacement of the LEDs. RCOC has a plan intended to allow it to replace the LEDs **BEFORE** they burn out, which prevents “black” traffic signals and saves the cost of sending a crew out on an emergency basis to replace LEDs when they fail at night or on a weekend.

Safety: Saving lives saves money

Both of the above examples have helped to make RCOC's roads safer. But, they are just two of countless initiatives led by the agency to enhance road safety in the county. In fact, for more than 30 years, RCOC's official top priority has been safety. As a result, nearly all activities undertaken by the agency have been done with an eye toward improving safety.

RCOC has been a leader in the use of traffic crash data to determine where road improvements should be made and what those improvements should be, and in incorporating safety concerns into road designs and road maintenance activities. Partially as a result of RCOC's efforts, Oakland County has seen a significant decline in its traffic fatality rate for the last four decades, moving the county from a fatality rate that was higher than both the statewide and national rates to one that today is half both the statewide and national rates.

In addition to the importance of the lives saved through these safety efforts, dramatically reducing the number of traffic fatalities in the county has saved many millions of dollars. It has done this by significantly reducing the societal costs associated with these crashes.

Roundabouts

Another way RCOC is saving both lives and money is through the increased use of modern roundabouts.

Traditionally, the largest percentage of traffic fatalities occur at signalized intersections in urbanized areas. Roundabouts greatly reduces the likelihood of serious-injury crashes and fatalities at intersections while improving traffic flow and reducing congestion.

The Federal Highway Administration and the Insurance Institute for Highway Safety have both studied intersections converted from traffic signals to roundabouts, and both have concluded that roundabouts result in about a 90 percent reduction in fatalities resulting from crashes.

RCOC now has the highest concentration of roundabouts anywhere in Michigan. Clearly these roundabouts are saving both lives and the tremendous costs associated with crashes involving serious-injuries and fatalities.

Additionally, roundabouts generally increase traffic flow at intersections – the continuous flow of traffic in all directions moves more cars through an intersection than does the stop and go of a traffic signal. Engineers estimate that roundabouts generally increase intersection traffic flow by 30 to 50 percent.

Summary

These are just a few of the many examples of ways RCOC has worked to improve safety and efficiency and save money in recent years. As has been noted previously, because road agencies in Michigan have been underfunded for decades, pursuing cost savings is not a new or unique concept to them.

This reality was noted by the governor's Transportation Funding Task Force (TF2) 10 years ago in its final report to the Legislature. The TF2 noted that Michigan's *"transportation agencies have been relentlessly vigilant in stretching shrinking revenues....It is clear that efficiency is standard operating procedure at agencies across the state."*