Introduction

WORTH OVER AN ESTIMATED $115 BILLION

Ohio’s transportation system is one of its most valuable assets. Significant to both our local and national prosperity, it must be managed in a manner to support economic vitality and to improve the quality of life of all Ohioans.

RECORD PROGRESS WOOS JOBS

Ohio’s recent reforms have led to almost 3,000 road construction improvement projects over the past three years with an investment of nearly $6.7 billion — all without raising taxes. This has helped Ohio become more competitive economically as job creators continue to look for an advanced transportation network that makes it easier to move people and products.

TRANSPORTATION ASSET MANAGEMENT (TAM) - ALL AROUND SUCCESS

As part of ongoing efforts to improve the state’s roadway system while taking care of what we have, the Ohio Department of Transportation (ODOT) has implemented TAM Principles. These are increasing efficiencies and supporting technological advancements in collecting the data needed to manage Ohio’s transportation system in the 21st Century.

TAM’s business practices and data driven approach are also behind ODOT’s innovative use of lower cost paving treatments and more collaboration within the Department.

Although there is strong organizational support for TAM, it’s important to note there are other critical challenges driving the Department’s use of TAM principles. This Playbook is an acknowledgment of those challenges and describes strategies ODOT is using to plan ahead and to monitor ongoing performance so that we can respond accordingly.
CHALLENGE

Flat Funding and Inflation

With the fifth most interstates and second largest bridge inventory in the United States, Ohio’s diverse network for moving goods and people has made us a key player in the state’s and nation’s financial success. But costs continue to climb partly due to inflation and decreased buying power.

WHAT COST $1 IN 2006

COSTS $1.31 TODAY
USE NEW BUSINESS PROCESS TO STRETCH DOLLARS FURTHER

STRATEGIES

ODOT scores big by using asset management approaches to redirect an estimated $400 million right back into maintenance over the next six years.

- **Aggressive Preservation** — ODOT is paving a good portion of its low-volume roads with chip seals, micro-surfacing and thin overlays. This means $75 million can be redirected to other parts of the highway system each year.

- **State-of-the-Art Technology** — Sophisticated computer analysis guides ODOT in applying paving treatments that offer the highest benefit at the lowest cost.

- **More Huddling** — ODOT planners, engineers, highway crews, local governments and contractors are sharing plans and first-hand, practical knowledge to problem solve, saving time and money.
CHALLENGE

Increased Freight Volume

As people continue to shop online, more trucks are delivering purchases to doorsteps and traveling on highways. Truck freight is projected to top 28,493,144 miles a day statewide by 2020. More tonnage traveling Ohio's roads and bridges is great for business but causes more rapid pavement wear and tear. It also adds congestion in areas not designed to handle it.

67% of Ohio's freight moves on ODOT-maintained roads & bridges

Top Ohio Exports
- Machinery
- Vehicles
- Plastics
- Crops
STRATEGIES

Cleaning, sweeping, sealing, painting and resurfacing roads and bridges statewide on a hard-hitting schedule puts ODOT out in front of problems before they occur. This regular, ongoing maintenance slows deterioration and lowers long-term costs.

Investing in better data and encouraging more teamwork creates a new level of maintenance consistency statewide so ODOT can repeat best practices and eliminate practices that aren’t working.

Planning repairs helps prevent traffic bottlenecks due to unexpected road closures.

Implementing Access Ohio, the long-range transportation plan, and Transport Ohio, the statewide freight plan, better enables ODOT to identify and prioritize investments on our freight network.
CHALLENGE

Maintaining Institutional Knowledge

More than a third of ODOT’s existing workforce can retire over the next four years. This could impact ODOT’s ability to manage the state’s transportation assets effectively.

35% of current ODOT staff can retire by 2021
STRATEGIES

- Train the next generation of employees to implement current business process improvements and create a knowledge transfer plan to build their skills.
- Grow new technology alongside older systems so when the person who runs the old system retires, there’s already a replacement trained to operate both.
- Ensure the Asset Management Leadership Team has representatives from ODOT departments statewide so everyone communicates the gameplan on down the line.
- Take advantage of the Ohio Administrative Knowledge System (OAKS) to extend and enhance ODOT’s current operational capabilities in people management, financial systems, purchasing power and other common platforms and consistent business processes.
CHALLENGE

Countless Demands, Limited Resources

Keeping up with the needs of a transportation system as large as Ohio's can be daunting. Dollars must be invested wisely to create a highly functioning multimodal network.

GUIDANCE AND DIRECTION PROVIDED BY THE ASSET MANAGEMENT LEADERSHIP TEAM

- Maintain critical asset inventories and condition
- Communicate strategic direction and progress made
- Establish performance targets and funding needs
- Monitor progress for continuous improvement
- Develop work plans

LEADERSHIP TO OPTIMIZE INVESTMENTS
**STRATEGIES**

- Allocate District budgets based on statewide critical success factors like measuring pavement conditions and reducing diesel emissions and based on candidate projects suggested by ODOT’s computerized management systems.

- Have ODOT’s Asset Management Leadership Team review proposals together. This gets multi-disciplinary, internal and external stakeholders on the same page from the start resulting in much smarter decisions.

- Have District and Central Office planning personnel develop an Annual Work Plan together to ensure statewide performance targets are met.

- Remove artificial distinctions between maintenance work and capital investments to give Districts more flexibility to address targeted needs.
CHALLENGE
Safety

ODOT is working toward zero deaths by reducing and even eliminating crashes. Many factors interfere with roadway safety which requires a multi-pronged, holistic approach.

THESE CHAIRS REPRESENT THE 1,133 PEOPLE WHO DIED ON OHIO ROADWAYS IN 2016.
COMBINE PLANNING & SMART TECHNOLOGY TO SAVE LIVES

STRATEGIES

- ODOT dedicates $100 million annually to enhance safety and incorporate safety best practices in all transportation projects.

- ODOT’s Transportation Information Mapping System (TIMS) software tracks assets and their conditions. This enables ODOT to keep roads, bridges, airports, ports, transit systems, culverts, safety barriers, guard rails, signs, railroads and intermodal facilities in good shape. TIMS data shows crash/congestion patterns so ODOT can address problems faster. The data also helps ODOT and public officials advocate for legal measures to prevent distracted driving. All lead to improved safety.

- ODOT is currently building infrastructure to get real time parking information to truckers via the web and on-road signs. This Truck Parking Information and Management System (TPIMS) will allow truckers to plan their routes more effectively and rest safely.
CHALLENGE
Extraordinary Weather Events

Catastrophic flooding, high winds and hot and cold extremes can happen any time in Ohio. This can damage roads and bridges and cost a lot of money to repair. Disrupted travel also hurts the economy.
ODOT’s Asset Management process includes assessing transportation system vulnerabilities and taking proactive steps to help mitigate consequences. For example, scheduling more frequent cleaning of storm drains or widening culverts to help relieve flooding.

Resilience and sustainability are an important part of decision-making. ODOT studies risks vs. rewards to guide transportation investments that will help protect the system even when the unexpected happens.

Snow plow GPS-Automatic Vehicle Location (AVL) Systems optimize snow and ice removal. Drivers can better control salt application and plow position while automatic camera feeds inform the public about actual road conditions.
CHALLENGE

Travel Time Reliability

Nearly every worker, product or service must use an ODOT-maintained road at some point in the journey. Business today is all about the dependable, predictable delivery of goods and people, yet roads are busier than ever. Congestion delays cost time and money.

5.5 Million Jobs

IN OHIO (ALL OF THEM!) ARE SUPPORTED BY OUR TRANSPORTATION INFRASTRUCTURE
MAKE OUR SYSTEM BETTER & ENHANCE CAPACITY

STRATEGIES

- ODOT is developing a Transportation System Maintenance & Operation (TSMO) plan to solve problems, like traffic snarls, in real time. TSMO deploys ramp metering, digital road signs, and smart sensors to provide data on everything from flooding to congestion patterns to bike traffic. This will allow traffic managers to make sure everything functions together to get the best results for travelers.

- ODOT is testing Hard Shoulder Running (HSR) which lets motorists drive on the highway shoulder during peak hours. This keeps traffic and commerce moving without building additional lanes.

- ODOT is piloting a program called Mind the Queue to reduce secondary road crashes caused by unexpected delays like a traffic accident, disabled vehicle or debris in the road. Personnel and caution signs are stationed at various points along the line of delayed motorists warning them to either reduce speed, be prepared to stop, or that there is a crash ahead.
CHALLENGE

Managing One of the World’s Largest Transportation Systems

ODOT must protect the huge investment Ohioans have in their vast transportation network which includes roadways, air and water ports, rail lines and intermodal facilities. Change, like connected autonomous vehicles, is coming and must be integrated into the existing system.

ODOT SPENDS 93% OF ITS TIME AND RESOURCES CARING FOR MORE THAN

- 43k MILES OF ROADS
- 14k BRIDGES
- 80k CULVERTS
ODOT is checking performance data so resources are allocated in a way that will better achieve strategic objectives and manage risks. ODOT will make ongoing investments in:

- Personnel Development and Capacity Building
- Business Process Changes
- Data Integration and Governance
- Technology and Management Systems

Executive leadership will ensure ODOT stays on its current asset management track to overcome risks associated with flat revenue projections. Leadership will set policy and direct funding to meet Playbook and future challenges.
Resources

For more information, please visit:

transportation.ohio.gov/AssetManagement