Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
Information Technology	Commercial vehicle mainline virtual weigh stations ***NEW***	• Installing mainline high-speed weigh-in motion scales for commercial vehicle weight enforcement on highways to increase compliance of weight and safety laws.	• Potentially reduce the damage to roadways leading to increased preservation of pavement and infrastructure.	• Innovation deployment in progress.	• Currently under review.
Maintenance and Operations	Alternate bidding process for grass seeding ***NEW***	• The application of a performance-based, multi-year bidding process for a low maintenance grass seed versus a traditional grass seed to maintain grass at less than 8".	• Lead to cost savings as the number of mowings for this performance-based approach are expected to be lower than the current maintenance approach. • Animal-related crashes may also reduce over time.	• Innovation deployment in progress.	• Currently under review.
Maintenance and Operations	Sustainable micro-surfacing practices ***NEW***	• The use of micro-surfacing beyond typical applications to include sealing bridge decks, improving bridge/roadway skid resistance, filling ruts and as scratch or leveling.	• Improve bridge and roadway conditions through a more environmentally friendly application process that leads to fewer resources consumed. • Less energy used and reduced greenhouse gas emissions	• Innovation deployment in progress.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
Maintenance and Operations	Sustainable stormwater ***NEW***	• The use of grass swales and other best management practices, including removing existing pipes and replacing these with alternatives (when feasible) for stormwater management.	• Lessen environmental impacts. • Allow water to absorb into the surface at its own pace. • Reduce the need to disrupt traffic for future maintenance or replacements.	• Innovation deployment in progress.	• Currently under review.
Maintenance and Operations	Traffic Incident Management (TIM) responder training** ***NEW***	• A training program that focuses on a response effort to protect motorists and responders while minimizing the impact on traffic flow. • Efforts include detecting, verifying and responding to incidents; clearing the incident scene; and, restoring traffic flow.	• Lead to faster incident response and clearance, saving lives, time and money. • It could also lead to fewer secondary crashes resulting from the original incident and less exposure to moving traffic while the incident is resolved.	• Innovation underway.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	3-D models for construction** ***NEW***	• Technology that allows design and construction teams to connect virtually to develop, test and alter project designs throughout the design and construction phases.	• Allow for faster, safer, more accurate and more efficient planning and construction.	• Innovation deployment in progress. • Provide training and support to designers in 3-D. • Take advantage of web-based training courses as much as possible. • Define 3-D Modeling standards and processes for better design development and management.	• Currently under review.
PennDOT Project Delivery	Accelerated Bridge Construction (ABC)**	• Use prefabricated bridge elements and systems to build structural components offsite. • Utilize a slide-in bridge construction technique to expedite the replacement of an existing bridge structure.	• Reduce mobility impacts to 48-72 hours while planning and bridge construction are reduced by years. • Replace bridges faster and safer. • Significantly reduce traffic delays and road closures. • Increase the quality and longevity of bridges.	• Innovation underway.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Alternative Technical Concepts (ATC)** ***NEW***	• Provide a solution that is equal to or better than the state's design and/or construction criteria in the request for proposal to create innovative, cost-effective solutions.	• Shorten construction time. • Enable early contractor involvement with innovation and constructability options. • Advance new and more effective solutions. • Lead to cost savings.	• Innovation pending.	• n/a
PennDOT Project Delivery	Best practices for the design, evaluation and quality control of high percentage Reclaimed Asphalt Pavement (RAP) mixes ***NEW***	• Evaluates uses of higher RAP percentages along with tighter testing and material quality controls needed to ensure successful performance.	• Economic benefits include material cost savings from reducing the amounts of raw aggregates and binders in new mixtures as well as reduced costs associated with transporting raw materials to plant sites. • Environmental benefits include reduced emissions and fuel usage associated with extraction and transportation of raw materials.	• Innovation deployment in progress.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Construction Manager General Contractor (CMGC)** ***NEW***	• A contractor who acts as the consultant in the design process and who can offer new innovations before construction begins.	• Lead to new innovations, best practices and reduce costs and schedule risks as a result of the contractor's years of proven experience doing the actual work.	• Innovation pending.	• n/a
PennDOT Project Delivery	Consultant construction inspection selection dates ***NEW***	• Staggering consultant construction inpsection selection dates so that consultants have the knowledge of as many pending selections as possible when they make their next submission.	• Lead to better inspection staff, improved documentation and project reporting compliance.	• Innovation deployment in progress.	• Currently under review.
PennDOT Project Delivery	Crushed Concrete Aggregates (CCA) ***NEW***	• A granular material manufactured by recycling old concrete for use as an aggregate source in new construction.	• Reduce waste. • Cut costs. • Provide durable new roads.	• Innovation underway.	• Currently under review.
PennDOT Project Delivery	Design and use of pervious concrete pavements ***NEW***	• A material that allows water to pass through the slab to eliminate surface runoff and to recharge groundwater sources.	• Improve groundwater recharge. • Reduce stormwater runoff and flow in surface drainage systems. • Decrease the need for land-consuming water holding ponds resulting in more sustainable transportation solutions.	• Innovation deployment in progress.	• Currently under review.

**Every Day Counts (Round I and/or II)

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Design build**	• A method of project delivery in which the design and construction phases of a project are combined into one contract, awarded on either a low-bid or best-value basis.	• Accelerate project delivery. • Lower project costs. • Improve project quality.	• Innovation deployment in progress.	• Currently under review.
PennDOT Project Delivery	Digitally integrated environmental commitments and mitigation tracking system ***NEW***	• A system that efficiently tracks environmental mitigation requirements for state and federally-funded projects using an online tracking system.	• Allow for seamless tracking of projects through all phases of development, construction and maintenance. • Improve compliance with requirements under environmental permits. • Ensure efficient and successful post-construction monitoring.	• Innovation deployment in progress.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Expanded Polystyrene (EPS) Geofoam	• A lightweight, rigid foam plastic used as an embankment fill to reduce loads on underlying soils or to build highways quickly without staged construction.	• Accelerate foundation construction, which reduces project schedules. • Save money. • Require limited labor for construction. • Exert little or no lateral load on retaining structures. • Constructed easily in limited right-of-way areas and in adverse weather conditions.	• Innovation deployment in progress.	• Currently under review.
PennDOT Project Delivery	Flexibilities in utility accommodation relocation** ***NEW***	• Promotes the use of existing flexibilities to foster effective utility coordination during the project development process.	• Clarify and promote procedural and administrative flexibilities to improve coordination and reduce delays.	• Innovation pending.	• n/a
PennDOT Project Delivery	Geosynthetic Reinforced Soil (GRS) integrated bridge system**	• Layers of geotextile and compacted stone bridge superstructure units are combined with beams and a deck to create an integrated bridge system.	• Reduce construction time and cost. • Easy to build with common equipment and materials. • Flexible design to easily modify for site conditions.	• Innovation underway. • Final specifications for this technology was included in Publication 447, allowing local governments to use their liquid fuels funds for this technology.	• Currently under review.

**Every Day Counts (Round I and/or II)

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Implementation of Mechanistic-Empirical Pavement Design System ***NEW***	• The software program includes calibration and validation of the national pavement performance models and builds upon mechanistic-empirical pavement design guide.	• Lead to better pavement designs with fewer premature failures. • Improve pavement performance. • Reduce overall life cycle cost. • Improve overall pavement network performance levels.	• Innovation deployment in progress.	• Currently under review.
PennDOT Project Delivery	Intelligent compaction** ***NEW***	• Modern vibratory rollers equipped with an integrated measurement system, an onboard computer reporting system, Global Positioning System (GPS) mapping and optional feedback controls.	• Improve in-place density of pavement materials. • Reduce variability of measured density. • Improve efficiency of compaction.	• Innovation underway.	• Currently under review.
PennDOT Project Delivery	Interchange/Intersection Design Geometrics** ***NEW***	• Proven techniques that can accommodate traffic volumes more efficiently while improve the safety of motorists, pedestrians and bicyclists.	• Improve safety. • Reduce delays and construction time. • Provide direct and indirect cost savings to businesses, communities and system users.	• Innovation underway.	• Currently under review.
PennDOT Project Delivery	New application of innovative bidding (A+Bx) ***NEW***	• A bidding method where a monetary value is placed on the time component of a contract and is added to the bid amount. A=traditional bid, B=total time required to complete the project and x=daily cost of inconvenience to the traveling public.	• Encourage contractors to direct projects on a tight schedule leading to cost savings and fewer traveler inconveniences.	• Innovation deployment in progress.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Pennsylvania Natural Diversity Inventory (PNDI) access** ***NEW***	• Full access to the PNDI system by PennDOT personnel to facilitate transportation project planning.	• Streamline the process. • Save time by removing barriers to accessing environmental impact information necessary for project planning.	• Innovation deployment plan in progress.	• Currently under review.
PennDOT Project Delivery	Prefabricated Bridge Elements/Systems (PBES)** ***NEW***	• Structural components of a bridge that are constructed offsite.	• Save time and expense by reducing or eliminating the onsite construction time and lessening the mobility impact. • PBES are constructed in controlled manufacturing environments, which improves efficeincy, quality and durability.	• Innovation underway.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Quality Enviornmental Documents** ***NEW***	• Incoporate the existing Federal Highway Administration's recommendations on improving the quality of environmental documents as well as other state departments of tranpsortation practices into PennDOT's Design Manual 1B to provide more specific guidance for development quality and concise environmental assessments and environmental impact statements.	• Reduce the amount of work and resources required to prepare the documentation. • Save time and money while improving document quality. • Refocus efforts on "telling the story" of the National Environmental Policy Act's decision-making process in an efficient manner that the public understands while maintaining appropriate consideration of the environment.	• Innovation underway.	• Currently under review.
PennDOT Project Delivery	Trainee Program for construction projects ***NEW***	• Amendment of the Trainee Program for construction projects to allow contractors to provide the required training company-wide as opposed to the particular job with the trainee requirement.	• Increase attractiveness of starting a career in the construction industry.	• Innovation deployment in progress.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
PennDOT Project Delivery	Warm-Mix Asphalt (WMA)**	• A technique that allows asphalt to be produced and placed on the road at lower temperatures compared to the usual hot-mix method.	• Reduce paving costs. • Extend the paving season. • Improve asphalt compaction. • Allow asphalt to be hauled longer distances. • Improve working conditions.	• Innovation underway.	• n/a
PennDOT Project Delivery	Wayfinding signs for water trails ***NEW***	• Sign installation that can be incorporated into bridge projects for the PA Fish and Boat Commission-designated water trails along the Commonwealth's rivers and streams.	• Maximize the use of roadway access and improves user safety and navigation for recreational water trails.	• Innovation underway.	• n/a
Planning	Geospatial Data Collaboration (GDC)** ***NEW***	• Using cloud-based technology to allow data sharing and collaboration of Geographic Information Systems data between internal and external partners to create maps and share the latest data.	• Promote data sharing consistency through a single data warehouse. • Foster collaboration by forming groups within the data user community. • Focus resources. • Provide data accessibility and potential cost savings by using a common data sharing approach.	• Innovation underway.	• Currently under review.

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
Policy	Locally administered federal-aid projects**	• A three-pronged strategy to aid local public agencies through the complexities of the federal-aid highway program's requirements and processes for establishing and administering federal-aid projects. • The strategy includes: certification/qualification programs, consultant services flexibilities and stakeholder partnering.	• Increase compliance with federal and state regulations. • Reduce accountability risk. • Shorten time and reduce costs. • Achieve stakeholder buy-in and local ownership of projects.	• Innovation deployment in progress. • The Local Project Delivery Manual was published on November 27, 2013.	• Currently under review.
Traffic Control, Enforcement and Safety	Adaptive signal control technology** ***NEW***	• Adjust the traffic signal green timing to more effectively manage changing traffic patterns and reduce traffic congestion.	• Reduce traffic congestion, excess fuel consumption and delays.	• Innovation underway.	• Currently under review.
Traffic Control, Enforcement and Safety	Adaptive traffic signals and ramp management ***NEW***	• Installing meters or closures at specific ramps and key signalized intersections on the local roadway system to enhance the traffic flow.	• Reduce freeway congestion. • Maximize local arterial traffic flows through managed strategies that do not require major infrastructure investment.	• Innovation pending.	• Currently under review.
Traffic Control, Enforcement and Safety	Data-Driven Approaches to Crime and Traffic Safety (DDACTS)	• A law enforcement operational model that integrates location-based crime and traffic crash data to determine the most effective methods for deploying law enforcement and other resources.	• Increase collaboration among agencies and potentially leads to a decrease in both crash frequency and severity and a decrease in crimes at targeted locations.	• Innovation underway.	• n/a

**Every Day Counts (Round I and/or II)

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
Traffic Control, Enforcement and Safety	High friction surface treatments** ***NEW***	• The site-specific application of high-quality, durable aggregates using a polymer binder that restores and maintains pavement friction where the need for a safer pavement surface is the greatest.	• Reduce crashes, injuries and fatalities. • Relatively low in cost compared to geometric improvements. • Durable and long-lasting.	• Innovation deployment in progress.	• Currently under review.
Traffic Control, Enforcement and Safety	Integrating the Highway Safety Manual (HSM) into practice	• The application of contemporary methods regarding managment of road safety reflected in the HSM.	• Potentially reduce crash-related fatalities, injuries and property damage. • More effective use of scarce safety resources.	• Innovation deployment in progress. • The team is working to identify roadway safety data information needed for HSM.	• Estimated $21,000 annual savings in reduced PennDOT administration costs.
Traffic Control, Enforcement and Safety	Low-tech managed lanes concepts ***NEW***	• Application of low-cost and low-impact traffic operation techniques to maintain free-flow speeds. • Strategies will be explored for use in congested corridors.	• Improve capacity. • Add greater mobility with no capacity-adding construction.	• Innovation pending.	• Currently under review.
Traffic Control, Enforcement and Safety	PA Safety Symposium ***NEW***	• An educational symposium to bring together safety professionals to educate them on the most effective ways to improve safety.	• Improve understanding of techniques by safety professionals.	• Innovation underway. • The first symposium occurred in June 2014 with over 100 participants.	• n/a

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Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
Traffic Control, Enforcement and Safety	Rumble strip installation on thin pavement overlay ***NEW***	• A synthesis of best practices to help determine how to address the process and procedures for the installation and re-installation of centerline and edgeline rumble strips on thin pavement overlay projects.	• Provide standardized, cost-conscious guidance to transportation agecies seeking to effectively utilize these two features in conjunction with each other and through consideration of existing rumble strips.	• Innovation deployment in progress.	• Currently under review.
Traffic Control, Enforcement and Safety	Safety edge**	• A low-cost paving technique to make roadways safer by giving the edge of road pavement a 30-degree angle.	• Allow drivers who drift off highways to return to the pavement safely, leading to a decrease in highway fatalities and serious injuries. • Make the pavement more durable, potentially leading to less frequent road maintenance.	• Innovation underway. • The Safety Edge has been implemented as the standard edge treatment for bituminous pavements and shoulders as of March 2013.	• n/a
Traffic Control, Enforcement and Safety	Smart applications - Automated road condition reporting ***NEW***	• The collection and sharing of data and information to improve incident management, winter services and traffic operations.	• Increase reliable traveler information through 511PA. • Improve situational awareness. • Improve efficiency.	• Innvation deployment in progress.	• Currently under review.

**Every Day Counts (Round I and/or II)

Topic	Project Name	Project Description	Benefits	Current Status	Current Cost Savings
Traffic Control, Enforcement and Safety	Transportation operations data warehousing and management ***NEW***	• A collaborative plan to bring data into a common framework for archiving, planning, prioritizing and performance monitoring of the transportation system as a whole.	• Improve collaboration. • Eliminate unnecessary data efforts. • Reduce redundancies. • Increase access to previously "hidden" datasets	• Innovation deployment in progress.	• Currently under review.
Traffic Control, Enforcement and Safety	Variable speed limits ***NEW***	• Speed limits that change based on road, traffic and weather conditions to enhance the management of traffic.	• Potentially lead to decrease in number of crashes and greater speed limit compliance.	• Innovation pending.	• Currently under review.