



# Virginia's Regional Multi-Modal Mobility Program (RM3P)

November 6, 2022

# RM3P Outline



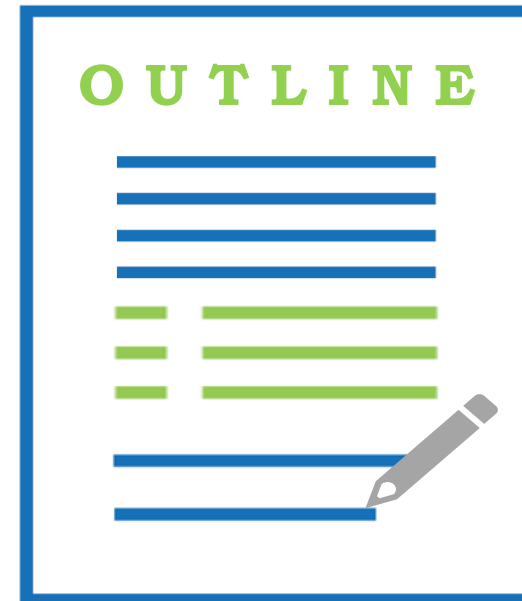
Travel Decisions Powered by Data

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# RM3P Overview

**RM3P's Mission** is to leverage the collaborative use of real-time data to improve travel safety, reliability, and mobility; as well as to give the public effective tools to make better informed travel choices.

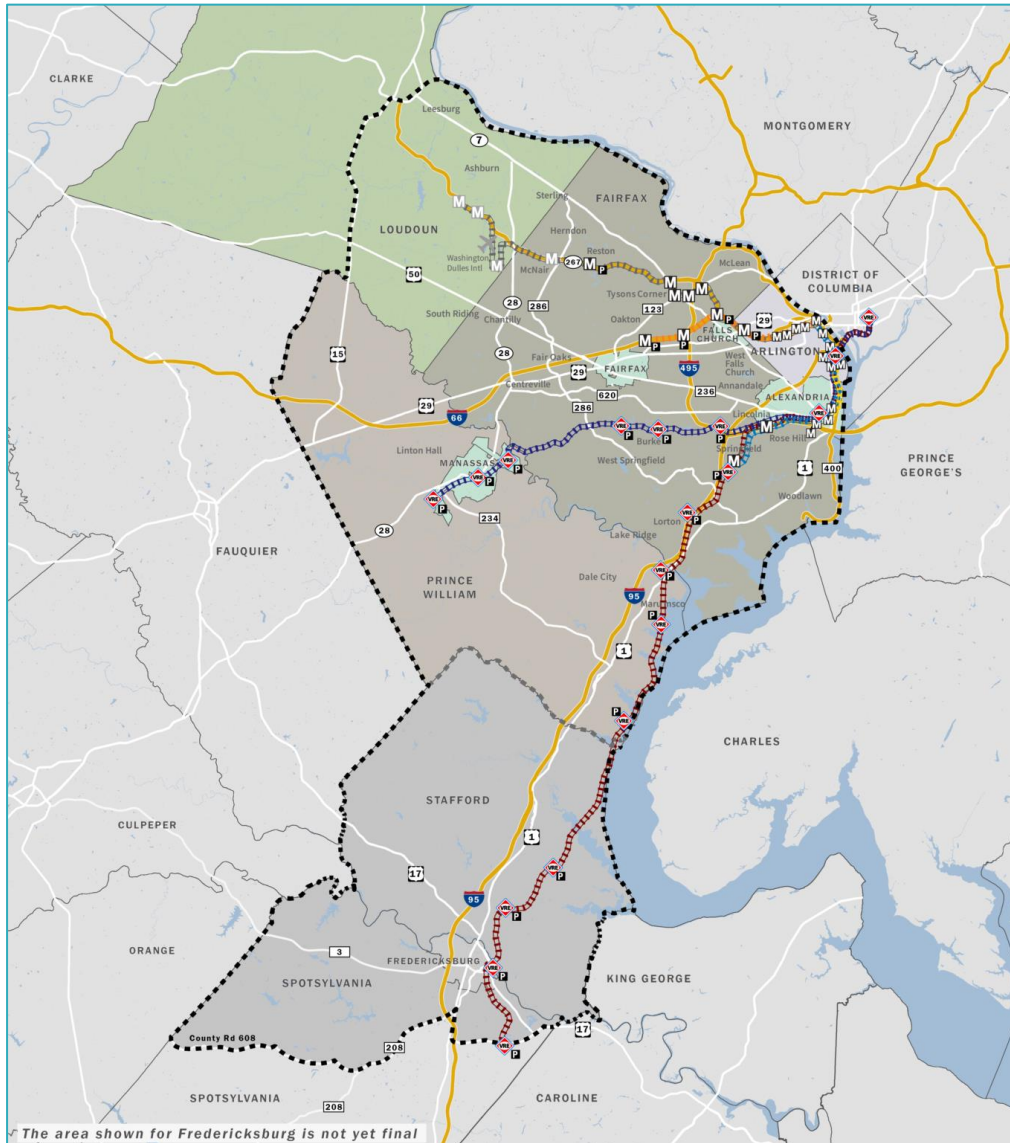


## **Regional ICM/RM3P**

- ❑ Builds on prior VDOT studies on ICM.
- ❑ The Northern Virginia Transportation Authority (NVTA), responsible for project planning and funding in Northern Virginia, identified ICM as key to meeting the vision of *TransAction*, its long-range strategic plan.
- ❑ NVTA and VDOT jointly developed a plan/approach for RM3P and obtained Innovation Funding.\*
- ❑ RM3P is led by VDOT, NVTA, and the Virginia Department of Rail and Public Transportation (DRPT).
- ❑ Federal funding (ATCMTD grant) enabled the expansion of selected RM3P functions southward to Fredericksburg.

\* The Innovation and Technology Transportation Fund is funded by the Virginia General Assembly.

# RM3P Overview – Geographic Dimension



This *data-driven, multi-modal* mobility program, serving Northern Virginia and Metropolitan Fredericksburg, is comprised of 4 active projects:

- ❑ Data-Exchange Platform (DEP)
- ❑ Artificial Intelligence-Based Decision Support System (AI-DSS)
- ❑ Dynamic Incentivization (DI)
- ❑ Commuter Parking Information System (CPIS)

## Data-Exchange Platform



The Data-Exchange Platform (DEP) will be a reliable, continuously updated, cloud-based data storage and exchange system. It will be used by regional partners and third-party providers to capture, process, and exchange information on real-time and historic multi-modal travel conditions. This platform will feed necessary data to other RM3P program elements and disseminate value-added and mature data by these elements.

## AI-Based Decision Support System



The AI-Based Decision Support System (AI-DSS) will help predict the impact of disruptions to the transportation network and provide coordinated response options to agencies. The automated tool for operators will use travel data to monitor emerging conditions and recommend plans for coordinated, multi-agency responses to congestion, incidents, and events.

## Dynamic Incentivization

Dynamic Incentivization (DI) will be a data-driven system offering the public incentives to modify their travel choices and behaviors in response to real-time travel conditions. The incentives offered will aid in redistributing travel by dynamically managing demand.



## Commuter Parking Information System



The Commuter Parking Information System (CPIS) will provide historical, real-time, and predicted parking availability information, including reliable information about parking space availability at lots serving bus, vanpool, and carpool commuters.



# RM3P Overview - Status



- The Data-Exchange Platform (DEP) is under development with significant data already ingested and outputs readied for data users. <https://rm3p.ritis.org/>
- With approval of the Virginia IT Agency, three RM3P program elements have advanced forward to the active procurement stage.

- ❑ Artificial Intelligence-Based Decision Support System (AI-DSS)
  - RFP Release Date – February 2, 2022
  - Expected Contract Award – Early 2023
- ❑ Dynamic Incentivization (DI)
  - RFP Release Date – March 4, 2022
  - Expected Contract Award – End of 2022
- ❑ Commuter Parking Information System's (CPIS)
  - RFP Release Date – June 29, 2022

Regional agency partners and stakeholders actively guided and shaped plans for RM3P service delivery and the framework for cooperative agreements.

# RM3P Innovations

Lean. Agile. Data-Driven.

## Program Management

- Expands ICM concept from Corridor to Region.
- Transforms notion of partnership.
- Agency ownership – executive, management, advisory levels, and practitioners.
- Active stakeholder engagement with guidance teams that include subject-matter experts (SMEs).
- Core management team – lean/agile.
- Skills Areas Constellation – cycles experts on and off the project at the right times.
- Solutioning – sets stage for procurement.

## Deployment Approach

- Embraces existing/emerging mechanisms for data-dissemination – democratizes application development.
- Harnesses data to enable data-driven decision-making.
- Purchases parking data (rather than a parking system).
- Utilizes infrastructure-light footprint and a strong, Agile-driven approach to program management.
- Delivers incremental products with an Agile process.

# RM3P Innovations (Cont'd.)

## Two Side of the Same Coin

### Demand Management

- Empowers commuters to contribute to the solution.
- Next-generation TDM – real-time & dynamic incentives.
- Adjusts incentive challenges to conditions.
- **Loyalty** incentive program – reinforces and contributes to decreases in single-occupancy vehicle usage.
- **Open back-end** – enables multiple app providers to join in the program, giving commuters choices on how they access incentives.
- Emphasizes financial sustainability.

### System Management

- Solves multi-modal transportation challenges by providing coordinated incident response options.
- Uses AI prediction and machine-learning techniques.
- Shifts from reactive to proactive operations for optimized response time and performance.
- Improves effectiveness of real-time integrated transportation information.



# Applicability

## Would RM3P-Like Precepts be Suitable Elsewhere?

### Representative Problems

- Congestion issues?
- Travel-time reliability issues?
- Transportation safety issues?
- Low-TDM participation issues?
- Response coordination issues?
- Commuter parking usage issues?

Risk is Opportunity

### Opportunities

- Infrastructure – support HOV
- Infrastructure – non-driving options
- TDM/multi-modal culture
- Funding
- Champions & partnerships
- System maturity
- Innovation culture

Ingredients for Success

# Lessons To Date



## Lessons Learned

A. Early Wins – seek out opportunities to demonstrate early wins.

B. Resources – adequate funding is a must; funding streams need to cover deployment & operations.

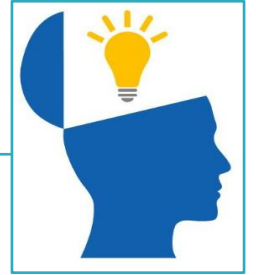
C. Champions – identifying program champion(s) is critical.

D. Stakeholder engagement – ensure stakeholders have a stake in success.

## RM3P Examples

- A. Use I-95 Express Lanes construction TMP fund to show comparative travel times & add multi-modal coverage to 511.
- B. Virginia's Innovation and Technology Transportation Fund and ATCMTD grant.  
-- Long-term funding – an uncertainty.
- C. Agency champions to speak to stakeholders & agency executive champions.
- D.
  - (i) Purposeful stakeholder meetings.
  - (ii) Leverage virtual platforms.
  - (iii) Interactive discussions.
  - (iv) NVTAs, a key stakeholder seek funding for implementation.
  - (v) Understand agencies' models for system maturity.

# Lessons Learned To-Date (Cont'd.)



## Lessons Learned

E. Promote innovation culture.

F. Procurement!

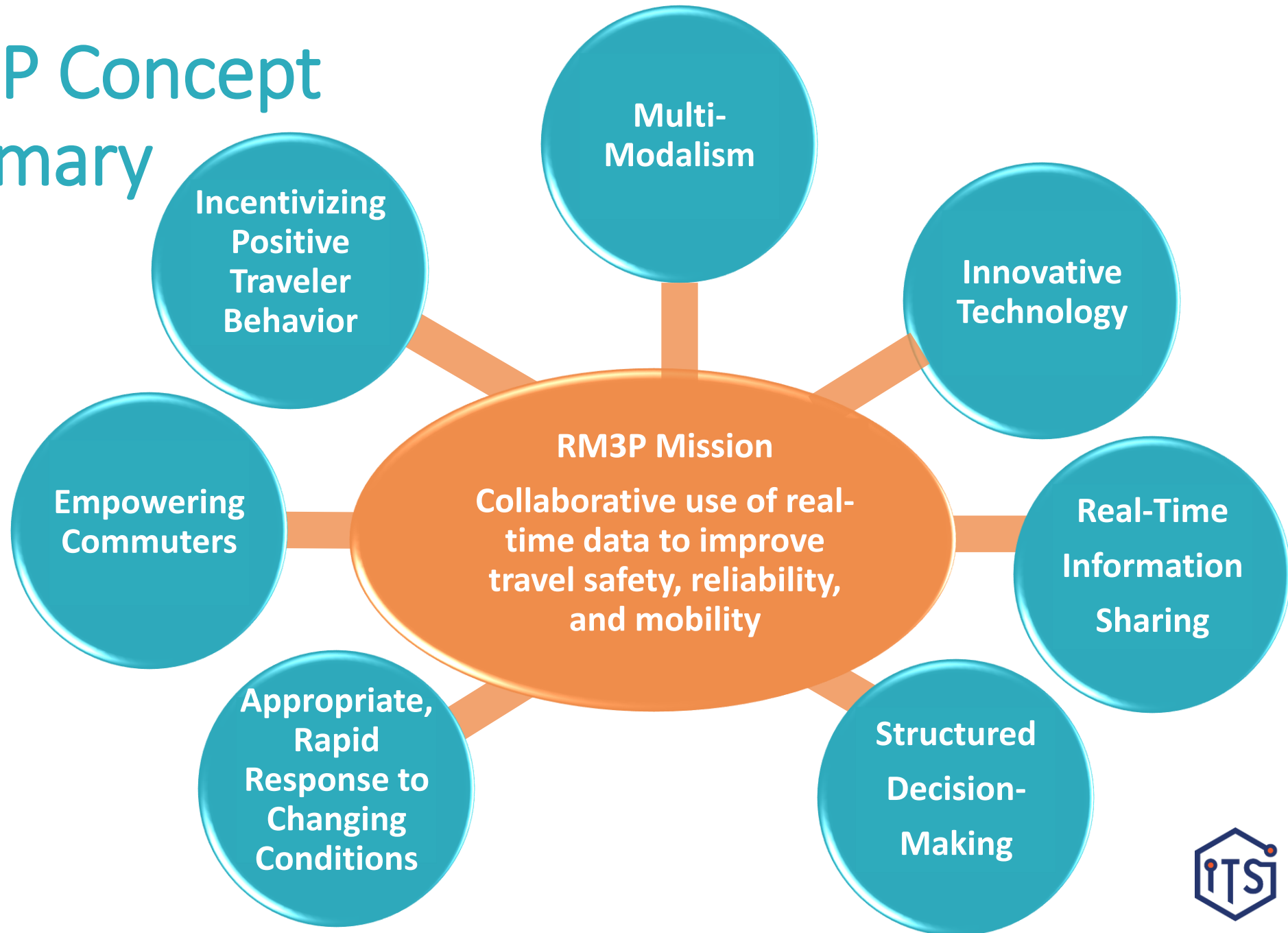
G. Agency ownership.

H. Keep up the momentum.

## Our Examples

- E. Leverage “VDOT of Tomorrow,” innovation culture, innovation labs to engage agency leaders.
- F. Agency’s procurement rules & practices are not optimized and aligned for innovative technology projects.
- G. Include agency representatives, appointed by their executives, on the management team.
  - React promptly to agency personnel changes.
- H. Communications planning:
  - e-Digest (newsletter), program website, agency SMEs to serve on guidance teams, participant surveys, seek out specific input, actively engage executives (e.g., use “voting” techniques to gather inputs, conduct one-on-one briefings).

# RM3P Concept Summary





**Joel L. Ticatch**  
Director, ITS Consulting  
Kapsch TrafficCom USA  
joel.ticatch@kapsch.net

THANK YOU

[RM3PVirginia.org](http://RM3PVirginia.org)

**Amy T. McElwain**  
Program Manager  
VDOT Office of Strategic Innovation  
amytang.mcelwain@vdot.virginia.gov

