



# Mobility Transformation Strategy and Road Map

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## Executive Summary

Prepared for: State of Michigan



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# Building a Mobile Strategy for the State of Michigan

Mobile enablement — enabling State Departments to provide improved services, do a job better, quicker, and more effectively. Enabling citizens and businesses to benefit through new digital services. A step forward on the path to enabling Digital Government.

## Executive Summary Overview and Key Findings

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Gartner found that the State has a clear vision of transforming government through mobile computing:

- Leadership within State Departments and Agencies have an excellent understanding of the potential for mobility to improve productivity, lower costs, introduce new services, and improve customer satisfaction
- Leadership is galvanized in support of the Executive Branch vision to become more customer-centric; they understand the potential of mobile technologies to achieve this vision
- Leadership understands the potential for mobility to re-engineer business processes to become more efficient, more effective and less costly — and they have several success stories that underpin their beliefs
- The State has several strategic initiatives that contribute to digital business transformation including:
  - Cloud (NextGen Data Center),
  - Application modernization (MiLamp)
  - Open data (Executive Order)
  - and now, Mobility

*Mobility; It is not “if”, but “how;” .....it is not “when” .....the time is now.*

This is a call to action.

## Executive Summary Overview and Key Findings (Cont)

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Over the years the State has been consistently recognized as a leader in digital government; but the game has changed: Over the years the State has been consistently recognized as a leader in digital government; but the game has changed:

- People now expect a User Experience similar to what they find at Netflix, Amazon and Google. Governments must adopt the principles of a digital business for both internal and external customers using digital technologies, processes and operations, to provide digital services where, when and how business, governments, employees and citizens need them
- A Digital Government strategy must include and synthesize the needs of employees, businesses and citizens
- Recently, the State has undertaken several mobile pilot projects that have resulted in substantial success:
  - Increased numbers of State Police on the street by providing a mobile office in vehicles
  - Lowered costs in the construction of complex civil engineering projects by enabling electronic construction documentation and e-signatures
  - Improved productivity and safety for State employees using mobile enabled telework technologies
  - Improved user experience service by converting MiPage applications to be mobile-friendly
- The success of mobile pilot projects has motivated Departments to accelerate investments in mobile technologies, policies and resources to achieve business objectives

However, the State lacks the enterprise tools, policies, procedures and resources that can accelerate their transformation.

## Executive Summary Overview and Key Findings (Cont)

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How does the State implement mobility services in an environment that is highly diverse and complex?

The State of Michigan Mobility Transformation Strategy describes how the State can achieve its mobility vision. The Strategy includes:

- A vision for the enterprise — achieving a demonstrable service and economic benefit through the delivery of mobility services to the citizens, businesses and governments within the State of Michigan
- Guiding Principles that provide a foundation for aligning mobility decisions to business drivers
- A Mobility Reference Architecture that highlights changes needed to effectively enable mobility capabilities
- A Mobility Decision Model to facilitate early discussions around mobile application development alternatives
- Four “Quick Win” opportunities that provide immediate improvements in mobile adoption
- A three year road map with detailed descriptions of recommended initiatives

This strategy will accelerate the State of Michigan’s effort to develop its digital enterprise framework by establishing key building blocks and foundational elements.



## Background and Project Context

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In March of 2012 the State completed an Information, Communications and Technology Strategy which found a strong interest within State Departments for the adoption of mobile computing:

- During interviews, it was revealed that State Agencies and Departments recognized the benefits of mobility; with many of them independently undertaking mobility initiatives
- The early success of these initiatives have inspired State leadership to expand the depth and breadth of the mobility transformation through the formation of an enterprise mobility strategy

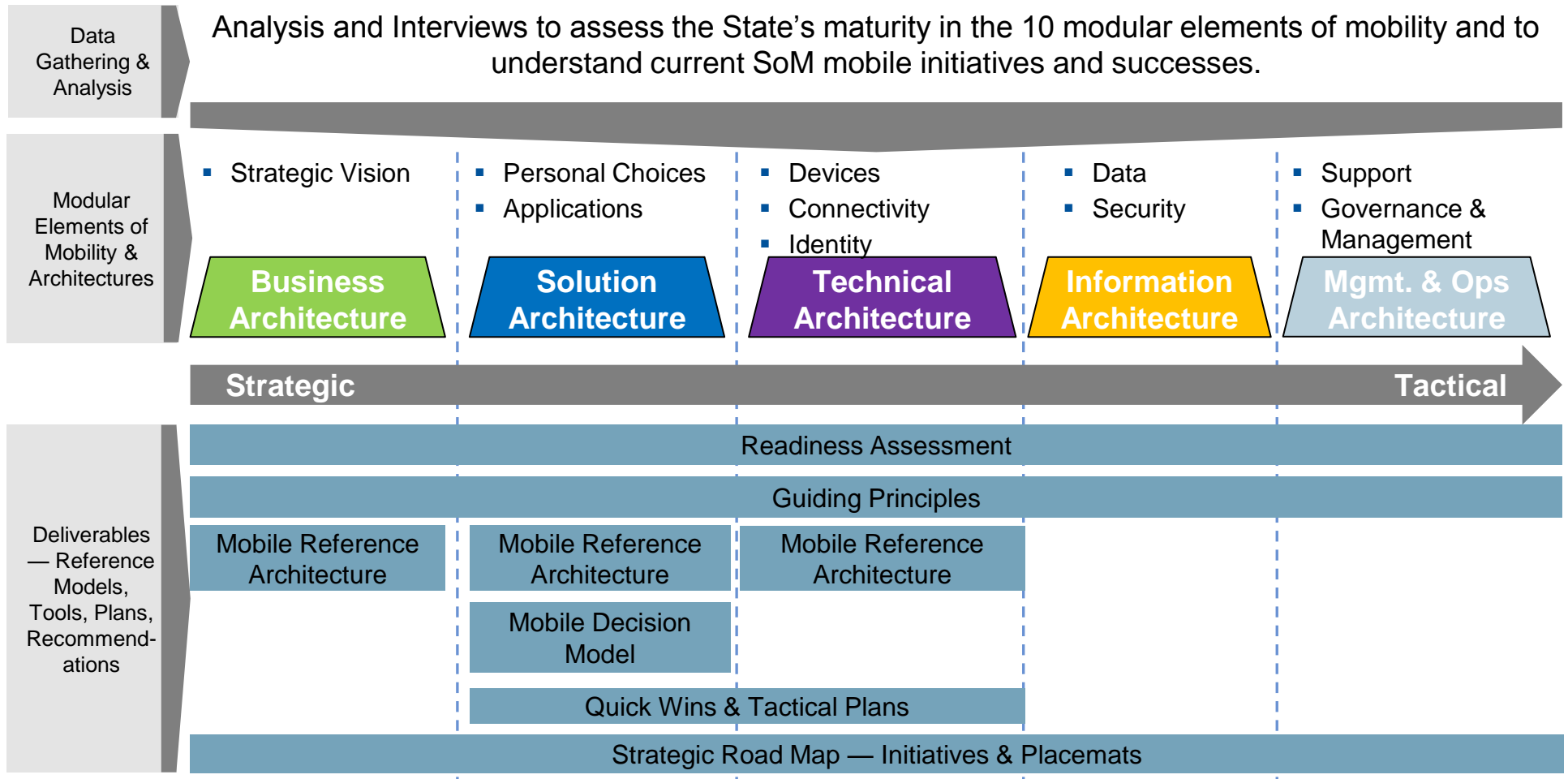
In January of 2014 Gartner was engaged to assist in the development of the mobility strategy:

- Gartner interviewed nearly 100 State service, business and technology representatives within 18 different Departments including the leadership of selected strategic initiatives of the State
- The interviews focused on understanding the current use of mobility, the potential for mobility and assessing the capabilities of the current environment to meet the mobility needs of the State

### Agency, Enterprise and State Strategic Initiatives

- MiPage
- Quality of Life executive groups including the Departments of: Environmental Quality, Natural Resources; and Agriculture and Rural Development.
- Legacy Modernization — (MiLamp)
- Transformational Projects — MiCloud
- Enterprise dashboards accessibility via mobile devices
- Enterprise wide BYOD Policy
- Next Generation digital infrastructure
- Michigan.gov portal redesign
- Cyber initiatives (single sign-on)
- Space optimization
- Michigan Business One Stop

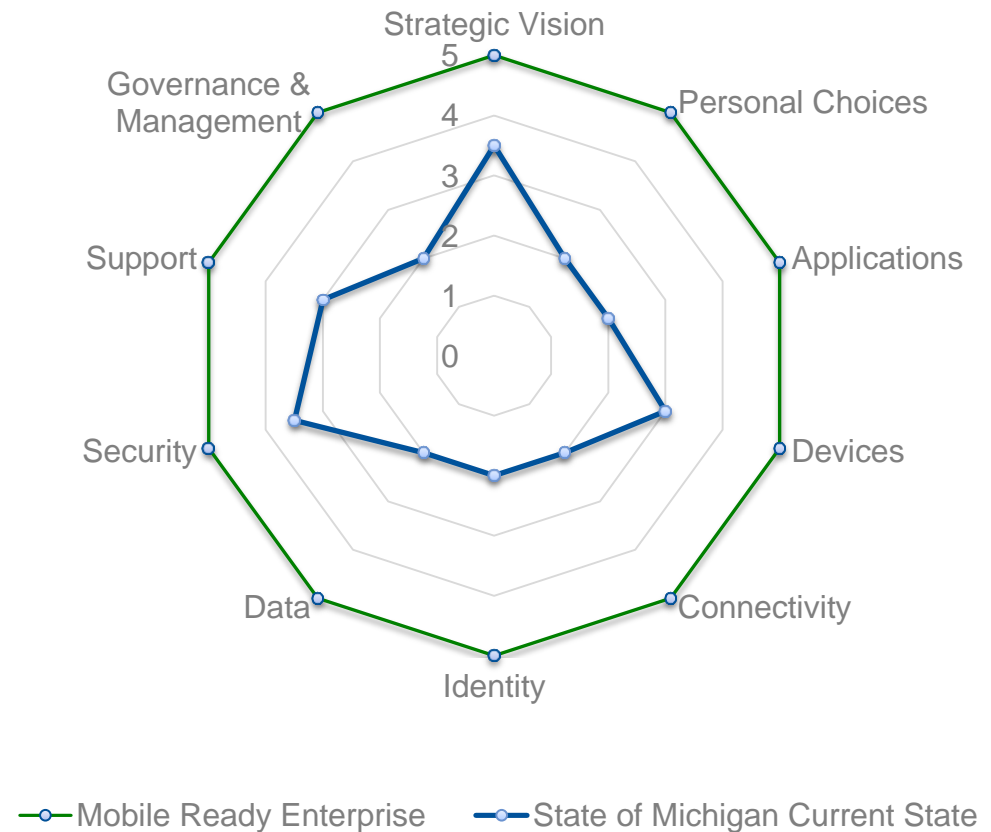
# All project components fit together to build the mobile strategy and road map



## The team used the modular elements of mobility framework to categorize interviews, workshops and analyze document to highlight significant Mobile Readiness maturity gaps

- Mobile Readiness is determined by the maturity of the 10 modular elements of mobility defined by market trends and enterprise capabilities
- The State of Michigan mobile readiness highlighted the following gaps:
  - Areas of relative strength included Strategic Vision, Security, Devices, and Support
  - Governance and Management, Personal Choices, Applications, Connectivity, Identity, and Data, were areas of relative opportunity
- Findings from the Readiness Assessment provide a basis for a cohesive mobile strategy, implementation road map and Quick Win recommendations

### State of Michigan Mobile Readiness





## The Team Articulated Mobility Guiding Principles That Are Aligned to the Business Drivers

Architecture	Mobile Modular Element	Principle	Alignment to Business Driver
<b>Business Architecture</b>	Strategic Vision	A Customer Centric Government that takes Government to the customer — customers receive the services they want, where and when they want them.	“achieve a mobile first, then a mobile only approach to computing”
<b>Solution Architecture</b>	Personal Choice Applications	Departments should be enabled to innovative through their choices of mobile application and devices that enable them to take services to customers. DTMB should enable Departmental choice through the establishment of interoperability and open access standards, enterprise tool kits, standards and leadership.	“mobility is all about the business, not the technology”
<b>Technology Architecture</b>	Devices Connectivity Identity	Mobile architecture is not about IT control; it is about enabling mobility in the business. A well-designed and well-implemented architecture will enable businesses to scale to the new mobile challenge while minimizing duplication, risk and scaling issues.	“the mobility architecture must synthesize with existing investments — it can’t be a “bolt on” ”
<b>Information Architecture</b>	Data Security	Mobile devices will be provided, and have the ability to acquire, rich data.	“mobility must align with the State Open Data initiative”
<b>Management and Operations Architecture</b>	Support Governance and Management	Governance of mobility should be driven by the business, management and operations should be driven by DTMB and reflect the systemic needs of the State.	“mobility should be as easy to operate as my iPhone — intuitively”

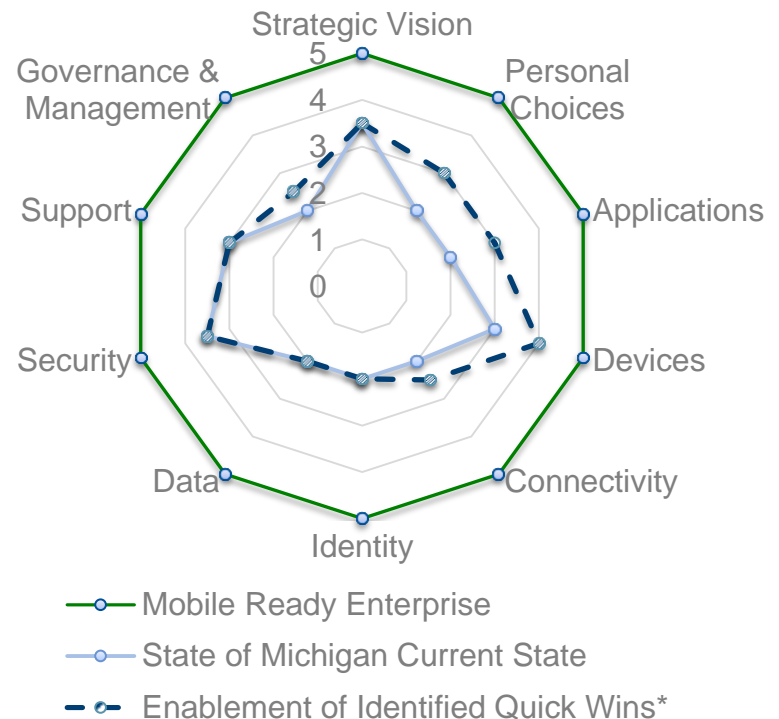
# The team identified four Quick Wins that will have a positive impact to the overall mobile readiness for the State of Michigan

Enablement of following Quick Wins will reduce the identified gap in several areas:

- Replace the VPN gateway with a mobile VPN gateway
- Deploy a Mobile Application Development Platform/Establish an Internal Application Store
- Improve BYOD adoption/Launch SOPE (State-Owned, Personally Enabled)
- Transform MiPage into a UI/UX Center of Excellence (CoE)

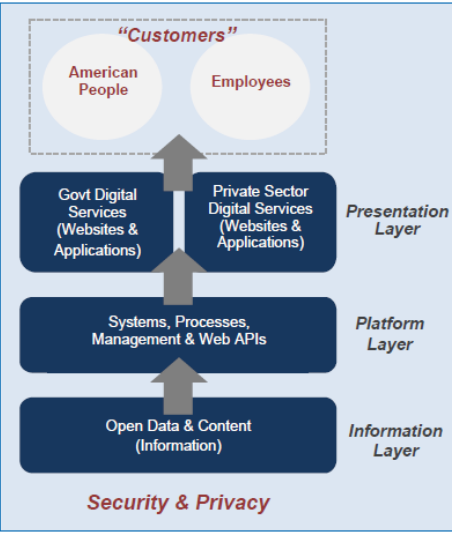
These Quick Wins improve the relative strengths associated with Personal Choices, Applications, Devices, Connectivity, and Governance and Management.

## State of Michigan Mobile Readiness Enabled by Implementing Quick Wins

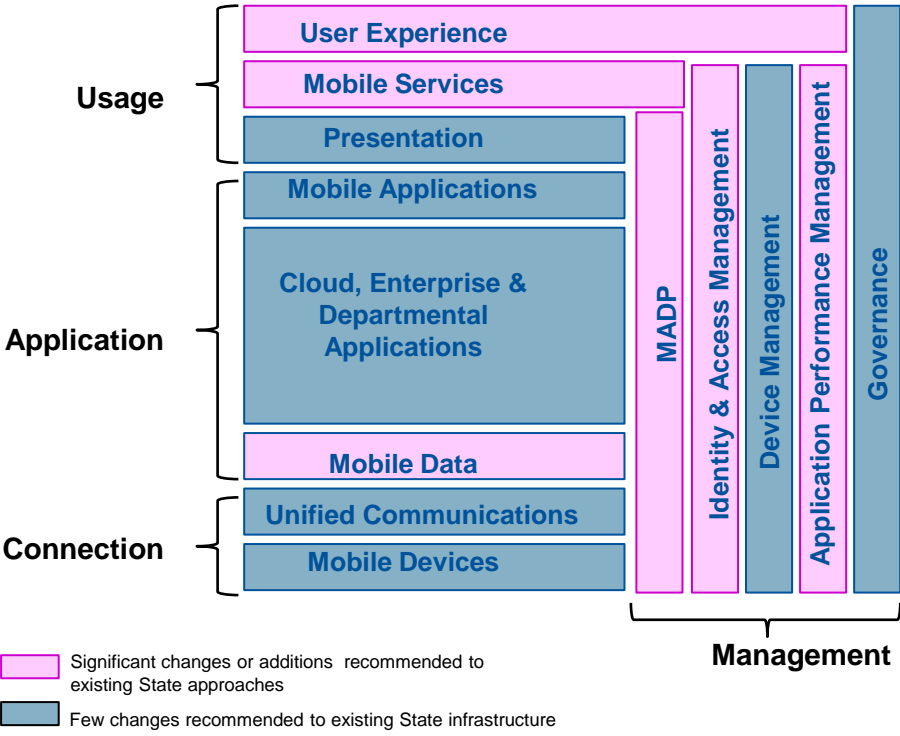


# State of Michigan Mobility Reference Architecture Aligns with the U.S. Digital Government Initiative

U.S. Digital Government, Layers of Digital Services



State of Michigan Mobility Reference Architecture



The U.S. Government’s vision of the layers of digital services aligns well with the SoM MRA. In both models data is accessed via Web APIs for presentation via Web and mobile applications. The recipients within the Digital Government model are the American People and Employees. The SoM MRA adds a service layer (and services orientation). The SoM MRA also adds an emphasis on UX.

## The Mobile Transformation Roadmap provides a strategic approach to implementing architecture based initiatives for a safe and successful mobile adoption strategy

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- The Mobile Transformation Road Map is a comprehensive 3 year timeline with detailed descriptions of recommended initiatives for the State of Michigan Mobile Transformation program
- The initiatives and recommendations are based on the Mobile Readiness Assessment results, Mobile Reference Architecture and Quick Wins Analysis and Tactical Plans, and existing mobile and modernization initiatives
- Initiatives have been organized based on five architecture categories:
  - Business Architecture
  - Solution Architecture
  - Technology Architecture
  - Information Architecture
  - Management and Operations Architecture
- Each road map initiative is described fully on a ‘placemat’ slide that includes the initiative description, objectives, effort required, time frame, description of activities, and key deliverables and dependencies
- Effectively implementing the roadmap will require a significant culture change effort as well. Mobilization and communications activities will be integrated into the plan execution and the design of specific initiatives to overcome organizational resistance.

# High-level Investment Summary Estimates\*

## Item

**Adopt a Mobile First approach to Computing:** Prioritizes mobility requirements in all strategic planning and tactical activities including application and infrastructure investments

**Appoint a Chief Digital Officer for the State:** Governor appointment of a CDO. CDO is responsible for the State's Digital Government Strategy and project responsible for cross-department digital initiatives (e.g., CEPAS, HIE)

**Create a Mobile Steering Committee:** Establish steering committee that includes leading; digital businesses, digital government and digital civic advocacy participants. The focus is on coordinated digital economic development within the State

**Establish Collaborative Mobile Application Development Approach:** Defines the roles DTMB and Departments have in collaborative RMA and Hybrid WMA development

**Accelerate Resident Mobile Application (RMA) Development and Deployment:** Deploy 50 applications within 6 months; Establish a MCoE in a collaborative workspace in Romney; Repurpose MiPage team to RMA development; Rotate Department resources into the MCoE to support RMA development for their respective department; estimated costs are for workspace requirements

**Deploy an enterprise grade Mobile Application Development Platform (MADP):** Add an enterprise MADP capable of 1) increasing the volume of RMA development, 2) provide Departments with tools to develop the User Interface and Unser Experience application components, and 3) enable Departments to develop "simple" applications

**Improve BYOD Adoption and Launch State-Owned, Personally Enabled (SOPE) Mobile Devices:** Deploy container on phones and tablets that will nest State applications and data. Change policies to reflect new feature and improved user perspective.

NOTE: Estimates are directional in nature, and may vary from actual costs due to timing or other elements specific to the environment. SoM should evaluate the one-time and ongoing costs as a part of the normal due diligence for detailed implementation planning and budgeting

## High-level Investment Summary Estimates, *continued*

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### Item

**Improve BYOD Adoption and Launch State-Owned, Personally Enabled (SOPE) Mobile Devices:** Deploy container on phones and tablets that will nest State applications and data. Change policies to reflect new feature and improved user perspective.

**Replace the Existing Virtual Private Network (VPN) Gateway:** Replace older VPN gateway with Cisco ASA and Cisco AnyConnect Client

**Deploy B2E Enterprise Application Store:** Establishes an application store only accessible by State employees. This internal app store will host B2E applications

**Create a Cross Department Visionary Application:** Create a modest cross department visionary application that demonstrates the strength of RMA

**Establish API Interface Plane:** Establish standards for accessing data within the State. Require alignment to the standard during MiLAMP

**Develop a Tablet replacement for a Laptop:** Commit desk top engineering and applications teams to collaborate in enabling a tablet to be a functional replacement; Costs do not include implementation

**Network and wireless AP upgrades:** Accelerate wireless AP deployment, transition funding to DTMB as an infrastructure cost (equivalent to cabling in a facility)

**Mobile Unified Communications:** Start the deployment of Find Me Follow Me to enable a single number for employees

**Identity and Access Management:** Improve IAM for mobility

**Implement mobile applications management and analytics:** Deploy end to end application performance monitoring and analytics

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## Critical success factors for operationalizing the Mobile Transformation Strategy

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The operationalization of the State's mobile strategy requires systemic evolution in all aspects of information technology infrastructure and operations. These changes enable process re-engineering that can create a digital government. Digital government services benefit the State's businesses, citizens and local governments by providing new and innovative services at a reduced cost and improved satisfaction.

The Mobile First Initiative brings the digital government evolution to the forefront of strategic and tactical planning and execution whereby every action, every investment, considers how to achieve mobility and digital government objectives. We also recommend appointing a Chief Digital Officer who will lead the State's digital businesses and the State's digital citizens into the digital government future. This leadership recommendation is the single most important critical success factor for the operationalization of the mobile transformation strategy

Our recommendations also include evolving the symbiotic DTMB and Agency relationship through a collaboration initiative to develop applications, offer lower cost computing devices, and business process re-engineering that will become the catalyst for Digital Government. Operationalizing this symbiotic relationship is the second most important critical success factor.

The State has several opportunities to consolidate enterprise investments and coordinating Agency efforts in enterprise tools, centers of excellence, common standards and innovation. The strategy defines four high value, short time frame "quick win" opportunities that can provide demonstrable mobility adoption over the next six months. We believe the momentum created through the success of these quick wins will also be a critical success factor.

Lastly, the State understands that a transition to mobility will impact operating costs structure and chargeback rates. The recommendations includes actions for the DTMB financial team to establish a cost analysis rate model and pilot adoption rates characteristics to develop rates based on actual experience.

The remainder of the strategy presents initiatives, tools, frameworks and architecture recommendations that will provide the State with continuing momentum for the success of the strategy.