MPO Staff Report

Technical Advisory Committee:
April 10, 2024
MPO Executive Board:
April 17, 2024

RECOMMENDED ACTION: Update on the Intelligent Transportation System (ITS) Regional Architecture.
TAC RECOMMENDED ACTION:

Matter of update on the ITS Regional Architecture to the MPO Executive Board.

Background:
Our ITS Regional Architecture is part of our Metropolitan Transportation Plan and needs to be regularly updated. NDDOT and the MPOs have agreed to utilize the expertise of ATAC and its staff to originally develop and assist us in maintaining our Regional Architecture. Thereby our individual documents are better coordinated and interoperable with each other. The purpose of the study would be to work with local staff and ATAC to establish an update to our current Regional Architecture and draft any new future opportunities to incorporate ITS into our metropolitan area.

ATAC started work in January. At this time, they have reviewed the current architecture and have looked into what needs to be updated to meet the needs of the most up to date standards of ITS architecture. Group meetings have been held, but some people could not make it or we do not have the correct contact information. We are asking the TAC to review the list and let us know the correct information.

Findings and Analysis
- ATAC completed our initial and previous updates to our ITS Regional Architecture.
- MPO UPWP identifies this activity to be completed in 2024.
- Update on what ITS architecture is and what type of information we are looking for in this update.

Support Materials:
- Presentation
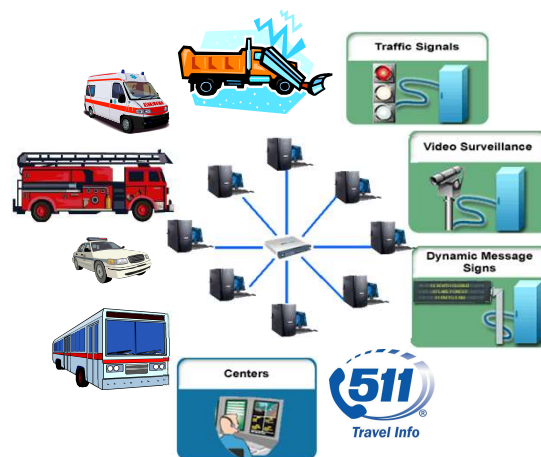- Contact List

Forks MPO Regional
ITS Architecture Plan

Update to the
Technical Advisory Committee
April 10, 2024

NDSU UPPER GREAT PLAINS
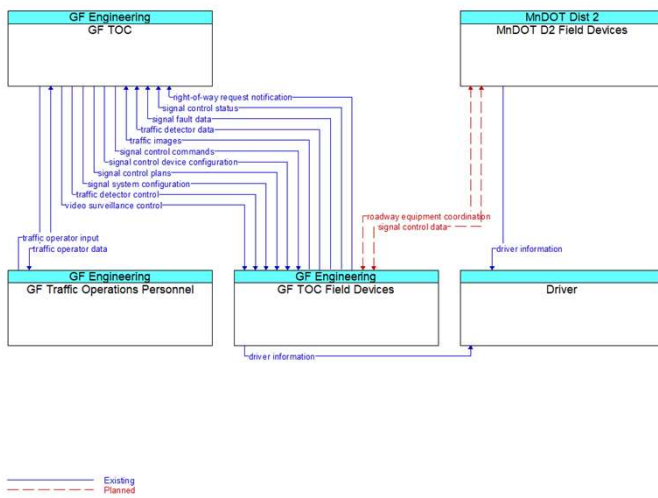TRANSPORTATION INSTITUTE

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ITS Architecture

- A Planning Framework
- Defines
  - Functions that must be performed (user services)
  - Physical entities where these functions reside (subsystems)
  - Interfaces between subsystems (information flows)
  - Communications requirements for interfaces
  - Stakeholder roles

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An Example: Traffic Signal Control

Stakeholder	RR Description
GF Engineering	Design, operate, and maintain signal control in GF
	Coordinate with MnDOT Dist 2/EGF
	Operate TOC
	Collect traffic data
	Provide data for archival
MnDOT Dist 2	Design, operate, and maintain signal control in EGF
	Coordinate with GF TOC
	MN state system road maintenance
	Winter maintenance (snow plow operations, sanding, anti icing) on MN state system

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RA Update

- As ITS projects are implemented, the RA needs to be maintained
- The updates need to:
  - Reflect new ITS priorities and strategies
  - Account for expansion in ITS scope
  - Allow for the evolution and incorporation of new ideas

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ITS RA Federal Conformity Rule

- ITS projects shall conform to the National ITS Architecture and standards
  - Requires:
    - Use of the National ITS Architecture to develop a regional ITS architecture (RA)
    - All subsequent ITS projects must comply with the RA
  - Applies to:
    - ITS projects funded by the Highway Trust Fund
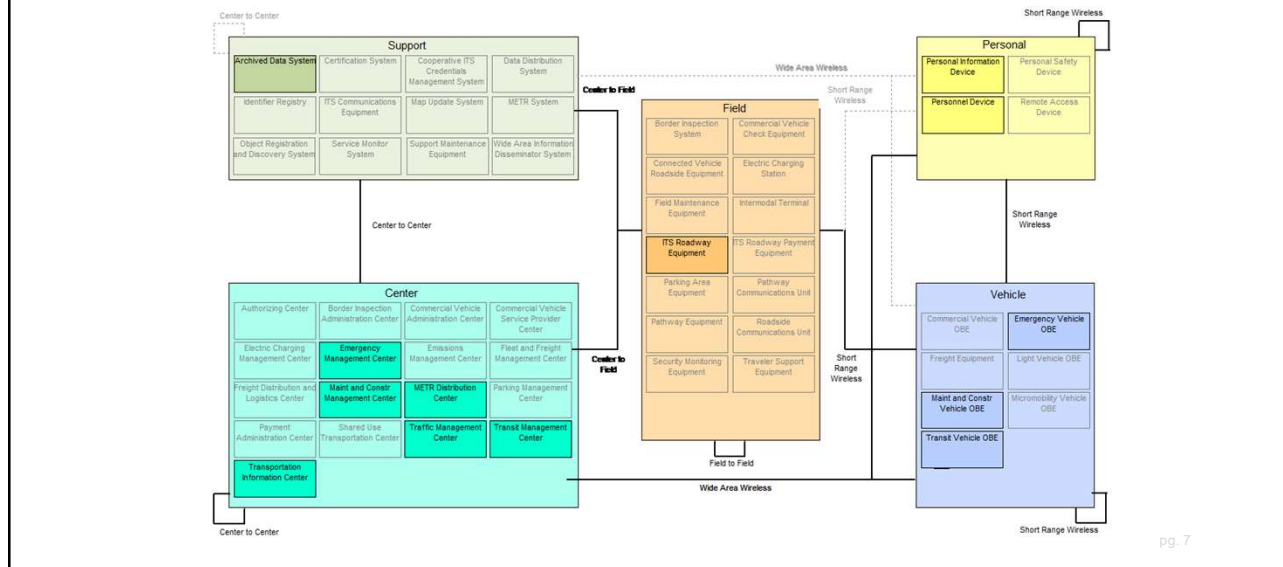
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Forks RA Overview

History		Stakeholders	
Prepared on	March 2005	Number of Stakeholders	22
Updates on	2008, 2014, 2019	Stakeholders Group	2

Technical Content	
User Service Areas	5
Total Number of Service Packages	28
Existing Status	24
Planned Status	4
Service Package Instances	2

- On the web:
  - Grand Forks-East Grand Forks | Regional ITS Architecture (atacenter.org)

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Forks RA Physical Architecture

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Architecture Requirements

- Scope: describe the region, agencies and stakeholders
- Operational concept (roles and responsibilities)
- Agreements required for performing services
- System functional requirements
- Interface requirements and information exchanges
- ITS standards supporting interoperability
- The sequence of projects required for implementation

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RA Update Tasks

- Data collection
  - Small group or agency meetings (January 2024- April 2024)
- Identify RA changes and update inventory (May 2024)
- Review and update SP and functional requirements (June 2024)
- Implement updates (July 2024)
  - Update RAD-IT database
  - Create an architecture website
  - Update report
- Review, finalize, and ratify (August 2024-September 2024)

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Current Status

- Data collection
  - Contact agencies to identify changes (additional service packages, field devices, communication standards)
  - Collect relevant data/information
  - Summarize changes
  - Provide to stakeholders for review (with possible new SP)

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Thank you

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GRAND FORKS-EAST GRAND FORKS ITS REGIONAL ARCHITECTURE, 2024 UPDATE

Last Name	First Name	Jurisdiction	Area	Agency/ Organization	Role/ Title	E-mail	Business Phone
Lipsh	Sharon	City of Grand Forks	Public Works/ Maintenance	GF Public Works - Streets		SLipsh@grandforksgov.com	
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		Altru Hospital	Emergency	Altru Ambulance Services			701-780-5000
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Last	First	Jurisdiction	Category	Organization	Title	Email	Phone
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Andrew	Schneider	Grand Forks County	Emergency	Grand Forks County	Sheriff	sheriffs.office@gfcounty.org	701- 780 -8280
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