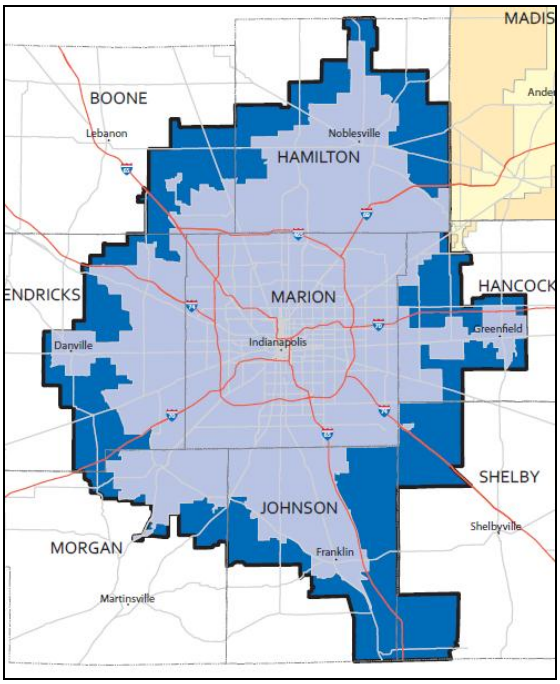

Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

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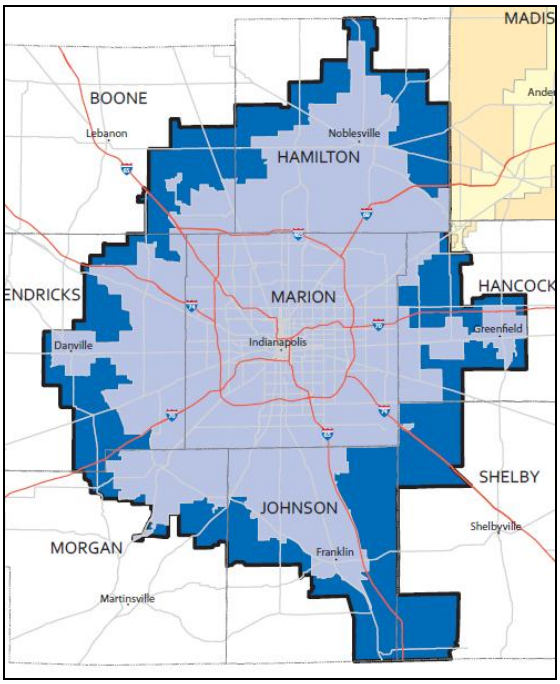

Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX A
Inventory of Existing Documentation

June 2005

Prepared By

JACOBS

Edwards and Kelcey

for

Indianapolis Metropolitan Planning Organization

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1.0 Introduction

Intelligent transportation systems (ITS) have been applied throughout the greater Indianapolis area for many years to promote the safe and efficient travel of motorists, transit riders, and cargo. A number of key documents prepared by various transportation agencies in the region have guided the planning, deployment, and operation of these intelligent transportation systems. This memorandum describes the inventory work performed as part of the Indianapolis ITS Architecture Project, providing summaries of key ITS-related documents.

2.0 Key Documents

In order to fully assess the status of ITS in the greater Indianapolis area, a number of documents were collected from various transportation agencies. These include:

- Indianapolis Area ITS Early Deployment Plan (INDOT, 1996)
- Congestion Management System Process Report (Indianapolis MPO, 1996)
- TrafficWise Documentation
    - Concept of Operations Document (INDOT, 2000)
    - Communications Plan Document (INDOT, 2000)
    - Indianapolis ATMS Operations Plan Document (INDOT, 2000)
    - TrafficWise Traffic Management Center Maintenance Plan (INDOT, 2000)
- Tracking the Deployment of the Integrated Metropolitan Intelligent Transportation Systems Infrastructure in Indianapolis: FY2002 Results (FHWA, 2003)*
- Indianapolis Regional Transportation Plan for 2025 (Indianapolis MPO, 2001)*
- Indianapolis Regional Transportation Improvement Program, 2004-2006 (Indianapolis MPO, 2004)*
- Statewide Transportation Improvement Plan, 2004-2006 (INDOT, 2004)*
- DiRecTionS Region-Wide Rapid Transit System Study (Indianapolis MPO, 2004)
- The 2004 Urban Mobility Report (Texas Transportation Institute, 2004)*
- Indiana Statewide ITS Strategic Plan, *Preliminary Draft V1.1* (INDOT, March 2005)
- Indiana Statewide ITS Architecture, *Draft* (INDOT, March 2005)

* updated annually

Summaries of each of these documents, highlighting the ITS aspects contained in each, are listed below.

2.1 Indianapolis Area ITS Early Deployment Plan

Completed in 1996, the ITS Early Deployment Plan (EDP) for Indianapolis provides direction for the planning, design, deployment, and operation of ITS projects in the region. Development of the EDP was led by the Indiana Department of Transportation (INDOT) and a wide range of stakeholders, including the Federal Highway Administration, the City of Indianapolis, the Indianapolis Metropolitan Planning Organization (MPO), IndyGo (METRO Bus), and various surrounding municipalities and counties. The EDP report serves as a starting point for the creation of the Indianapolis ITS Architecture by identifying applicable components of the National ITS Architecture.

The ITS Vision for Indianapolis, as defined in the EDP, calls for

> *"enhanced transportation productivity, mobility, efficiency and safety within the region with a reduction in energy use and improvement in the environment through the use of cost effective ITS technologies and systems."* [1]

This vision statement, along with the goals and objectives identified in the EDP and listed below, serve as a starting point for defining the direction of the Indianapolis ITS Architecture.

- Improve productivity,
- Improve safety,
- Reduce energy use and negative environmental impact,
- Improve mobility and accessibility,
- Increase efficiency, and
- Create a state of the art ITS for the region.

The EDP report, which focused on the Northeast Corridor (an area bounded by Keystone Avenue on the west, US 36 (Pendleton Pike) on the south, and SR 37/I-69 interchange on the north), describes over 70 ITS projects to be deployed over a 20-year period. These projects are grouped under the following six Program Areas:

1. Multi-Modal Traveler Information Systems
2. Freeway Management System
3. Traffic Signal Control Systems
4. Transit Management Systems
5. Public-Private Partnerships
6. Technical and Planning Support

The EDP provides a description for each Program Area, as well as a rationale and expected results for the Program Area. Proposed individual projects are then listed for each Program Area, with anticipated implementation timeframes. Each project is summarized by listing a project objective, current conditions, a project scope, location, potential technologies, a project administrator, time frame, budget, staffing recommendations, and a sponsor.[2]

2.2 Congestion Management System Process Report

Published by the Indianapolis MPO in 1996, the Congestion Management System (CMS) Process Report builds upon regional transportation planning efforts to help identify potential strategies to reduce congestion and promote the mobility of travelers and goods. Development of the CMS Process Report consisted of nine steps, as identified in the Statewide CMS Work Plan:

1. Definition of targeted CMS network and components,
2. Establishment of suitable performance measures,
3. Establishment of performance objectives and standards,
4. Establishment of program data collections and system monitoring,
5. Identification of roadway and transit system deficiencies,
6. Analysis and evaluation of possible congestion mitigation strategies,
7. Implementation of strategies,

[1] Indianapolis Area ITS Early Deployment Plan, Indiana Department of Transportation, 1996.
[2] Indianapolis Area ITS Early Deployment Plan, Indiana Department of Transportation, 1996.

8. Evaluation of the effectiveness of implemented strategies, and
9. Establishment of a process to periodically update the CMS.[3]

Recommendations from the Indianapolis CMS Process Report include a number of ITS strategies, such as public transit enhancements, high-occupancy vehicle (HOV) lanes, intersection operation improvements including signalization modifications, freeway operations and management, incident management, automated toll collection, advanced traveler information systems, commercial vehicle operation improvements, and advanced vehicle control systems.

2.3 TrafficWise Documentation

TrafficWise is the intelligent transportation system for the State of Indiana, whose mission is to make driving easier and safer for motorists in Indiana, especially in highly traveled metropolitan areas. Operated from traffic management centers (TMC) located in Gary and Indianapolis, TrafficWise encompasses the traffic monitoring, incident detection and response, and traveler information functions of INDOT. The TrafficWise system consists of vehicle sensors and cameras to monitor traffic and detect incidents, dynamic message signs and highway advisory radio to alert motorists of current travel conditions, a real-time interactive website to provide pre-trip traffic information, and communications infrastructure to link all of these systems to the traffic management centers where system data is collected and disseminated.[4]

TrafficWise program documentation consists of the following (all published by INDOT in 2000):

- Concept of Operations Document – defines the functions, processes, and interactions that occur within the TrafficWise system.
- Communications Plan Document – defines the necessary strategies and processes to support the communications requirements of the TrafficWise system.
- Indianapolis ATMS Operations Plan Document – describes the necessary guidelines, procedures, legislation, and activities of the Indianapolis TMC.
- TrafficWise Traffic Management Center Maintenance Plan – outlines the proper procedures, as well as roles and responsibilities, for maintenance of TMC components.

Together these documents describe the operational aspects of the TrafficWise program, including those within the City of Indianapolis.

2.4 Tracking the Deployment of the Integrated Metropolitan Intelligent Transportation Systems Infrastructure in Indianapolis: FY2002 Results

In January of 1996, the Secretary of Transportation set a goal for the deployment of integrated metropolitan ITS in the largest 75 cities of the country within ten years. Since 1997, the United States Department of Transportation (USDOT) has tracked the development of intelligent transportation systems in these larger metropolitan areas by surveying representatives of these cities. The survey focuses on the nine components of the Metropolitan ITS Infrastructure:

- Freeway management,
- Incident management,
- Arterial management,
- Emergency management,

[3] Congestion Management System Process Report, Indianapolis MPO, 1996.
[4] www.trafficwise.org

- Transit management,
- Electronic toll collection,
- Electronic fare payment,
- Highway-rail intersections, and
- Regional multimodal traveler information.

The Integrated Metropolitan ITS tracking survey was last completed for Indianapolis in 2002. The results of the survey show high levels of metropolitan ITS *deployment opportunity* in the areas of incident management, arterial management, emergency management, and electronic fare payment. The survey results show high levels of metropolitan ITS *integration* in the areas of incident management, emergency management, transit management, and electronic fare payment. The remaining Indianapolis ITS areas show moderate or low levels of deployment opportunity and integration based on the survey responses.[5] Overall, the level of integrated metropolitan intelligent transportation systems for Indianapolis is rated as low by the USDOT.[6]

2.5 Indianapolis Regional Transportation Plan for 2025

The Indianapolis Regional Transportation Plan (RTP) provides direction for the development of the transportation system of the Indianapolis metropolitan planning area (MPA). The MPA for Indianapolis includes all of Marion County and portions of Hamilton, Boone, Hendricks, Johnson, and Hancock counties. Following the guidelines of the Transportation Equity Act for the 21st Century (TEA-21), the Indianapolis RTP serves as a plan for integrated regional transportation systems, including ITS.

The identified goals of the Indianapolis RTP are:

- Goal 1 – Preserve existing transportation facilities and seek to maximize the return on transportation investments.
- Goal 2 – Provide for the safe and efficient movement of people and goods.
- Goal 3 – Ensure the coordination of transportation plans with the overall regional social, environmental, and land-use goals.
- Goal 4 – Provide for the essential mobility needs of all citizens.

Along with those included in the EDP, these goals will provide a starting point for the development of goals and objectives for the Indianapolis ITS Architecture.

2.6 Indianapolis Regional Transportation Improvement Program, 2004-2007

While the RTP uses a 25-year horizon, the Indianapolis Regional Transportation Improvement Plan (IRTIP) focuses on transportation system enhancements over the next three years – projects that are funded and programmed for construction. This reduced timeframe allows the IRTIP to address proposed transportation projects in greater detail.

Proposed projects are organized into several different categories in the IRTIP. ITS projects in the IRTIP fall under the following categories:

- Public Transportation (IPTC/IndyGo) – radio system upgrade, automatic vehicle location system, passenger counting system, real-time transit traveler information system, a

[5] Tracking the Deployment of the Integrated Metropolitan Intelligent Transportation Systems Infrastructure in Indianapolis: FY2002 Results, FHWA, 2003.
[6] Deploying the Integrated Metropolitan Intelligent Transportation Systems Infrastructure: FY2003 Report, FHWA, 2003.

Downtown Transit Center, scheduling software purchase, and the Commuter Choice Van Pool project.

- INDOT – new or modernized traffic signal and flashers, traffic signal interconnect projects, freeway traffic monitoring projects, and at-grade rail crossing improvements.
- Rail/Highway Protection Safety – at-grade rail crossing improvements (INDOT).
- Local Jurisdiction (Indianapolis Department of Public Works) – new or modernized traffic signals and traffic signal interconnect projects.[7]

2.7 Statewide Transportation Improvement Plan, 2004-2006

INDOT has cited intelligent transportation systems in its Statewide Transportation Improvement Plan (STIP) as a way of using technology to combat congestion and reduce pollution. This is done by providing motorists with congestion information, allowing them to make informed decisions about their travel plans. The STIP lists Northwest Indiana, Louisville, Evansville, and Indianapolis as the key areas for investment in ITS around the state. The STIP includes a number of projects that include ITS components, including the I-465 Corridor ITS.

A summary of ITS projects from the RTP, IRTIP, and STIP is provided below. These and other potential ITS projects will be discussed further in subsequent sections of the Indianapolis ITS Architecture documentation.

Indianapolis Regional ITS Architecture
Projects Inventory

Stakeholder	Project	Funding Source	Agency	Timeframe	Source
INDOT Indianapolis Subdistrict	**Various signal interconnect projects**		**INDOT**	**Ongoing**	
	Signals, new/modernized:	**IM$, STP, Maintenance**	**INDOT**	**2004-2025**	**IRTIP (A1, A2), RTP, STIP**
	ITS traffic monitoring system on I-465 from I-65 to W. 86th St.	**IM$**	**INDOT**	**2004**	**IRTIP (A2), STIP**
	Intersection/interchange improvements (including signals or flashers):	**STP**	**INDOT**	**2004-2007**	**IRTIP, STIP**
	Road reconstruction/added travel lanes (including signals)	**IM, IM$, STP**	**INDOT**	**2004-2007**	**IRTIP (A1, A2), STIP**
	Various rail grade crossings (CSX), including Shortridge Rd.		**INDOT**	**2004-05**	**IRTIP (A2)**
Indianapolis Dept. of Public Works	**Various signal interconnect projects:**	**CMAQ**	**DPW**	**2004-2007**	**IRTIP (A1, A2)**
	Signals, new/modernized:	**CMAQ**	**DPW, INDOT**	**2004-2005**	**IRTIP (A1,A2)**
Indianapolis Public Transportation Corp./IndyGo	**Downtown Transit Center (multimodal)**	**5309, STP**	**IndyGO**	**2004-06**	**IRTIP**
	Commuter Choice/Van Pool	**CMAQ**	**IndyGO**	**2004-06**	**IRTIP**

Funding Acronymns
CMAQ - Congestion Management and Air Quality
IM, IM$ - Interstate Maintenance
STP - Surface Transportation Program
5309 - Federal Transit Section 5309, 49 U.S.C. S 5309

Source Acronymns
IRTIP - Indianapolis Regional Transportation Improvement Plan, 2004-2006 (A1 and A2 represent amendments # 1 and #2)
RTP - Indianapolis Regional Transportation Plan for 2025
STIP - Statewide Transportation Improvement Plan

[7] Indianapolis Regional Transportation Improvement Program, 2004-2007, Indianapolis MPO, 2004.

2.8 DiRecTionS Region-Wide Rapid Transit System Study

The DiRecTionS Region-Wide Rapid Transit System (RTS) Study is a comprehensive investigation into the merits of deploying rapid transit (e.g., light rail) for travelers in the greater Indianapolis area, particularly the Northeast Corridor. This ongoing study will analyze potential corridors, assess current transit operations, and estimate potential costs. It is anticipated that ITS will be an integral part of the rapid transit system that is ultimately deployed.

2.9 The 2004 Urban Mobility Report

Each year the Texas Transportation Institute produces its Mobility Report as a summary of the overall congestion levels in metropolitan areas around the country. The intent of the document is to highlight congestion problem areas and to recommend solutions to reduce travel delay. In 2004, some of the recommended solutions include ITS initiatives like ramp metering, freeway incident management, arterial traffic signal coordination, arterial street access control, and above all increased distribution of information to travelers. The 2004 Mobility Report estimates that applying these solutions in major metropolitan areas would reduce delay by hundreds of millions of hours and would save of billions of dollars across the country.[8]

In Indianapolis, the Mobility Report estimates that annual delay (extra travel time during peak periods) for an individual traveler is 37 hours (based on 2002 data).[9] While this value is considered average for metropolitan areas of similar size in the United States, such delay results in increased fuel costs and pollution levels. In February of 2004, the Indiana Office of Air Quality recommended that Marion County be designated a Non-Attainment Area by the United States Environmental Protection Agency due to measured levels of fine particular matter. Pollution will continue to be a concern for Indianapolis as congestion levels rise.

2.10 Indiana ITS Strategic Plan, *Preliminary Draft V1.1*

The Indiana ITS Strategic Plan identifies ITS needs for the State of Indiana and outlines the prioritized strategies that INDOT recommends to address those needs. The strategies are introduced first through the identification of recommended National ITS Architecture 'market packages,' and then through a comprehensive listing of planned ITS initiatives for the entire State of Indiana over the next 20 years. This project list includes project type, location, timeframe, and estimated cost for each project. ITS projects in Indiana will fall under seven deployment types:

- Full Advanced Traffic Management Systems (ATMS)
- Closed Circuit Television (CCTV) Cameras
- Permanent Overhead Dynamic Message Signs (DMS)
- Static / Dynamic Travel Time Signs (TTS)
- Hoosier Helper Freeway Service Patrol (FSP)
- Reference Markers (1/10, 2/10, and 1/2 Mile Reference Markers)
- Fiber Optic Deployment

The Indianapolis Region is identified as the priority location for major ITS deployments in the near term (2005-2008), with a number of planned ITS projects under each deployment type scheduled to occur within the Indianapolis Metropolitan Planning Area.

[8] The 2004 Urban Mobility Report, Texas Transportation Institute, 2004.
[9] The 2004 Urban Mobility Report, Texas Transportation Institute, 2004.

2.11 Indiana Statewide ITS Architecture, *Draft*

Developed concurrently with the Indiana ITS Strategic Plan and this Indianapolis Regional ITS Architecture, the Indiana Statewide ITS Architecture is a tool for planning, deploying, and integrating transportation systems throughout the state. While the Indianapolis ITS Architecture focuses on the Indianapolis Region, the Statewide Architecture has been developed to include all modes of transportation and all roads throughout the state, focusing on statewide and interstate systems like commercial vehicle operations and the Gateway Traveler Information System. A goal of the Statewide Architecture is to provide "a vision of how each transportation agency's systems will work together in the future to share information and resources in an effort to provide a safer, more efficient, and more effective transportation system for travelers in the state."

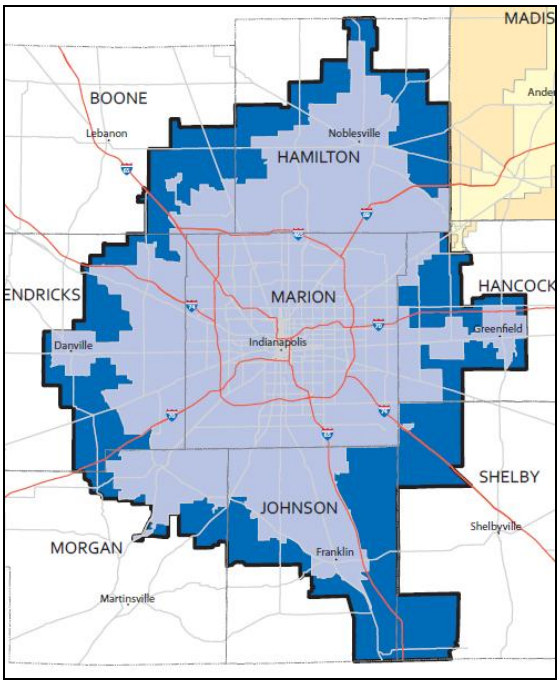
It is important to note that the naming conventions and other related parameters of the Indianapolis ITS Architecture have been closely coordinated with the Indiana Statewide ITS Architecture to promote interoperability and consistency between the two.

3.0 Previous ITS Architecture Efforts

Building upon the Indianapolis Area ITS Early Deployment Plan, a pair of ITS workshops were held in 2000 and 2001 to bring together stakeholders from key transportation agencies in the region. These "Tier I" and "Tier II" workshops provided the stakeholders with an introduction to ITS, and then encouraged their participation in the initial steps of architecture development. Findings from the Tier II workshop were collected and recorded using Turbo Architecture, a software tool sponsored by the FHWA for ITS architecture development.

Results from the Tier I and Tier II workshops provide a bridge between the Indianapolis ITS Early Deployment Plan and the Indianapolis ITS Architecture. The stakeholders, systems, services, interconnections, and standards identified during all previous ITS architecture efforts provide a starting point for current inventory tasks. Below is a listing of the stakeholders identified during the Tier I and Tier II efforts.

- Adjoining Counties
- City of Beech Grove
- City of Indianapolis
- City of Lawrence
- City of Southport
- Clarian Health Partners
- Commercial Vehicle Operators
- County/Township Fire Departments
- Event Promoters
- Indiana Bureau of Motor Vehicles
- Indiana Dept of Environmental Management
- Indiana Dept of Revenue
- Indiana Dept of Transportation
- Indiana State Emergency Management Agency
- Indiana State Police
- Indiana State Police Commercial Vehicle Enforcement Division
- Indianapolis Airport Authority
- Indianapolis Downtown Inc.
- Indianapolis Fire Department
- Indianapolis Motor Speedway (IMS)
- Indianapolis MPO
- Indianapolis Police Department
- Indianapolis Public Transportation Corporation (IndyGo)
- INDOT, KYTC, ODOT
- Major Employers
- Marion County Sheriff,
- Marion County Sheriffs Department
- Media
- Metropolitan Emergency Communications Agency
- Indiana University/Purdue University at Indianapolis (IUPUI)
- Rail and Bus Operators
- Special Event Sponsors
- Suburban Municipalities
- Towing and Recovery Operators
- Town of Speedway
- Travelers
- US Military
- Utility Companies
- Weather Services



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX B
Project Outreach

June 2005

Prepared By

JACOBS

Edwards AND Kelcey

for

Indianapolis Metropolitan Planning Organization

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1.0 Introduction

In order to create a comprehensive ITS architecture for the Indianapolis region, a broad range of stakeholders were identified and invited to participate in the development process. This memorandum describes the outreach steps that were conducted to seek input from these stakeholders and summarizes the results of this outreach effort.

2.0 Stakeholders

Without the ongoing and active participation of stakeholders throughout the development process, an ITS architecture will not effectively serve the traveling public. The "Regional ITS Architecture Guidance Document" produced by the Federal Highway Administration (FHWA), provides recommendations for the many potential ITS stakeholders in a region. These include the following stakeholder groups, with regional stakeholders listed for each:

Transportation Agencies:	Federal Highway Administration (FHWA) Indiana Department of Transportation (INDOT) Indianapolis Department of Public Works (DPW) Suburban municipality street departments/departments of public works (DPW) Surrounding county highway departments
Transit Agencies:	Indianapolis Public Transportation Corporation (IPTC)/IndyGo
Planning Organizations:	Indianapolis Metropolitan Planning Organization (MPO) Madison County Council of Governments
Public Safety Agencies:	Ambulance/Emergency Medical Services Indiana Counterterrorism and Security Council (CTASC) Indiana State Police (ISP) Indianapolis Emergency Management Agency Indianapolis Police/Fire/emergency medical services (EMS) Marion County Sheriff Metropolitan Emergency Communications Agency (MECA) Suburban municipality police/fire/emergency medical services (EMS) Surrounding county sheriffs
Activity Centers:	Indianapolis Airport Authority Indianapolis Motor Speedway RCA Dome
Fleet Operators:	Indiana Motor Truck Association
The Private Sector:	ITS Maintenance Contractors Eli Lilly
Other Agencies:	Indiana University/Purdue University Indianapolis (IUPUI) Indianapolis Downtown, Inc. Indianapolis Public Schools Purdue University

Appendix C provides a comprehensive listing of all of the project stakeholders and primary contacts for each agency/organization.

It is important to note that many of these stakeholders have also been involved in previous ITS planning in Indianapolis, particularly during the development of the Indianapolis ITS Early Deployment Plan and the "Tier I" and "Tier II" workshops held in 2000 and 2001, respectively (See Appendix A).

3.0 Outreach Methods

Three primary outreach methods were used to encourage stakeholder participation. These include surveys, one-on-one telephone interviews, and a stakeholder workshop. During each of these activities, stakeholders were introduced to intelligent transportation systems and ITS architecture, and provided an overview of the Indianapolis ITS Architecture Project.

2.12 Meetings

Throughout the project, periodic meetings have also been held between the Project Team and key stakeholders. On September 9th, 2004, members of the National ITS Architecture Development Team gave a one-day introductory seminar on the regional ITS architecture development process at the INDOT Traffic Management Center. Using examples from the region, the instructors led key stakeholders through the process that would be used to create the Indianapolis Regional ITS Architecture. The following stakeholder agencies attended this seminar:

- Federal Highway Administration (FHWA) – Dennis Lee and Mac Lister
- Indiana Department of Transportation (INDOT) – Meggan Simpson and Jay Wasson
- Indiana State Police – Lt. Bradley S. Scully
- Indianapolis Department of Public Works – Nathan Sheets
- Indianapolis Metropolitan Planning Organization (MPO) – Swenson Yang
- Indianapolis Police Department – Mike Woida
- IndyGo – Bruce Behncke

On November 15th, 2004, the Project Team facilitated a formal project kickoff meeting at the Indianapolis MPO offices. This meeting included an overview of the project including the project need, the scope of work, and a description of the anticipated results of the project. The meeting concluded with a question-and-answer session. The following stakeholder agencies attended the project kickoff meeting:

- Federal Highway Administration (FHWA) – Dennis Lee and Karen Stippich
- Indiana Department of Transportation (INDOT) – Meggan Simpson
- Indiana State Police – Maj. Thomas Melville
- Indianapolis Department of Public Works – Nathan Sheets
- Indianapolis Metropolitan Planning Organization (MPO) – Phil Roth and Heather Stouder
- Indianapolis Fire Department – Maj. James Turner
- IndyGo – Annette Darrow

2.13 Surveys

Surveys are an effective way to solicit specific information from a large number of stakeholders simultaneously. As the initial data gathering step, surveys act as a way to make stakeholders aware of the project and encourage their participation. For the Indianapolis ITS Architecture, over 80 surveys were distributed to the stakeholders listed in Appendix C. The sixteen-page survey was based upon the 'Interview' questions associated with the Turbo Architecture®

Software tool, as well as more subjective questions that were intended to lead to discussion in later steps in the architecture development process.

Overall, survey response was approximately 15%. The following stakeholders provided completed surveys:

- Counterterrorism and Security Council (CTASC)
- Town of Fishers
- Hamilton County
- Hancock County
- Indiana State Police
- Indianapolis Downtown, Inc.
- Indiana Department of Transportation (INDOT)
- Indianapolis Department of Public Works (DPW)
- Indianapolis Public Transportation Corporation (IPTC)/IndyGo
- James H. Drew Corporation
- Johnson County Planning and Zoning
- Rural-Metro Ambulance

The information contained in the returned surveys provided a starting point for the development of the architecture documentation and the Turbo Architecture database for Indianapolis, as well as additional subject matter for the telephone interviews.

The stakeholder survey template is located in Appendix D.

2.14 Interviews

To elaborate on the information provided in the stakeholder surveys, a limited number of telephone interviews were conducted with the following key stakeholders:

- Counterterrorism and Security Council (CTASC)
- CSX Railroad
- Eli Lilly
- Indiana Department of Transportation (INDOT) ITS Program Office
- Indiana Department of Transportation (INDOT) Traffic Management Center
- Indiana State Police
- Indianapolis Airport Authority
- Indianapolis Department of Public Works (DPW) (Engineering)
- Indianapolis Department of Public Works (DPW) (Operations)
- Indianapolis Downtown, Inc.
- Indianapolis Metropolitan Planning Organization (MPO)
- Indianapolis Motor Speedway
- Indianapolis Police Department
- Indianapolis Public Schools Police
- Indianapolis Public Transportation Corporation (IPTC)/IndyGo
- Metropolitan Emergency Communications Agency (MECA)
- Rural-Metro Ambulance
- Regional Transportation Authority (RTA)

These interviews provided the opportunity to delve into issues raised during previous correspondence with key stakeholders and to clarify information collected. In addition, these interviews served as a forum for key stakeholders to identify the challenges that their agencies face and the plans they have for the future.

The telephone interview template can be found in Appendix E.

2.15 Workshop

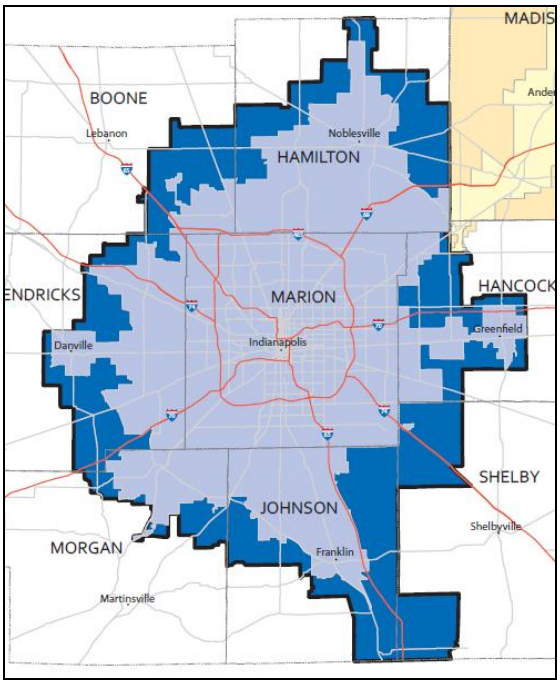
On February 8, 2005, a stakeholder workshop was held at the INDOT Traffic Management Center at 21st Street and Post Road in Indianapolis. Each of the stakeholders listed in Appendix C were invited to attend this workshop, with the following agencies being represented:

- Federal Highway Administration (FHWA) – Dennis Lee, Karen Stippich, and Shandrian Jarvis
- Hamilton County – Brad Davis
- HNTB Corporation – Brian Burkhard
- Indiana Department of Transportation (INDOT) – Mark Newland and Meggan Simpson
- Indiana Motor Truck Association – Tisha Eder
- Indiana State Police – Cpt. Guy Boruff and Maj. Thomas Melville
- Indianapolis Department of Public Works – Nathan Sheets
- Indianapolis Fire Department – Chief Joe Krebsbach
- Indianapolis Metropolitan Planning Organization (MPO) – Swenson Yang and Phil Roth
- Madison County Council of Governments – Jerry Bridges and Peter Mitchell
- RCA Dome – Kevin Deane
- Town of Fishers – Drew Williams

The workshop began with an overview of ITS and the architecture development process, as well as status updates on the Indiana Statewide and nearby regional ITS architectures. Next, the attendees participated in a visioning exercise, the identification of ITS goals and objectives, and a review of the ITS systems and services identified during initial project outreach. In the afternoon, the attendees formed "breakout" groups to discuss their organizations' roles and responsibilities in three theoretical operational scenarios.

Detailed minutes from the stakeholder workshop can be found in Appendix F.

Figure 1 Feb. 8th, 2005 Stakeholder Workshop



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX C
Stakeholder List

October 2014

Originally Prepared By

JACOBS

Edwards and Kelcey

And Updated by Varos, LLC

for

Indianapolis Metropolitan Planning Organization

Indianapolis Regional ITS Architecture Stakeholder List (2014)

Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Adjoining Counties					Madison Co. not in MPO jurisdiction	
Boone Co. Highway Engineer	1955 Indianapolis Ave	Ross Snider	317-544-4996	rsnider@usiconsultants.com		
Hamilton Co. Highway Engineer	1700 S. 10th Street, Noblesville 46060	Brad Davis	317-773-7770	bradley.davis@hamiltoncounty.in.gov		
Hancock Co. Highway Engineer	921 W. Osage St, Greenfield, IN 46140	Gary Pool	317-477-1112	gpool@hancockcoingov.org		
Hendricks Co. Highway Engineer	355 South Washington Street	John Ayers	317-745-9236	jayers@co.hendricks.in.us		
Johnson Co. Highway Engineer	1051 Hospital Rd, Franklin 46131	Mike Pelham	317-346-4360	mpelham@co.johnson.in.us		
Morgan Co. Highway Engineer	5400 Blue Bluff Road	Larry Smith	317-831-7989	lsmith@morgancoin.us		
Shelby Co. Highway Engineer	25 W Polk St.Rm. 206	Kem Anderson	317-392-6330	kanderson@co.shelby.in.us	Highway superintendent, not engineer	
Adjoining Municipalities						
Avon Town Engineer	6570 E US Highway 36	Nicole Mueller	317-826-7278	nmueller@schneidercorp.com		
Beech Grove City Engineer	3417 S. Sherman Dr, Beech Grove, IN 46107	Trent Newport	317-780-1555 x3	tnewport@crossroadengineers.com		
Brownsburg Planning Director	80 East Vermont Street	Todd Barker	317-852-1128	tbarker@brownsburg.org		
Lawrence City Engineer	9001 E 59th Street, 46216	Bruce Northern		bnorthern@cityoflawrence.org		

Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Speedway Town Engineer	111 Monument circle Ste 1200, 46204-5178	John Myers	317-636-4682 x5272	jwmyers@hntb.com		
Carmel City Engineer	1 Civic Square, Carmel, IN 46032	Jeremy Kashman	317-571-2441	jkashman@carmel.in.gov		
Fishers Town Engineer	1 Municipal Dr. Fishers 46038	Jeff Hill	317-595-3162	hillj@fishers.in.us		
Franklin City Engineer	44 N Jackson St, Franklin. 46131	Travis Underhill	317-736-3631	tunderhill@franklin.in.gov		
Greenwood City Engineer	225 S Emerson, Ste A, Greenwood, 46143	Mark Richards	317-887-5230	richardma@greenwood.in.gov		
Madison County Council of Governments	16 E. 9th St, Anderson, IN 46016	Jerry Bridges	765-641-9482	jbridges@mccog.net		
Noblesville City Engineer	14701 Cumberland Rd Ste 300, Noblesville	John Beery	317-776-6330	jbeery@noblesville.in.us		
Westfield Town Engineer	2728 E.171st St, Westfield 46074	Neil VanTrees	317-804-3136	nvantrees@westfield.in.gov		
Zionsville Town Engineer	1075 Parkway Dr, Zionsville, IN 46077	Lance Lantz	317-873-4544	llantz@zionsville-in.gov		
Plainfield Town Engineer	206 W Main St. Plainfield 46168	Don Mcgillem	317-839-2561 x250	dmcgillem@town.plainfield.in.us		
Mooresville Street Superintendent		Dave Moore		dmoore@mooresville.in.gov		
Greenfield City Engineer		Karla Vincent		kvincent@greenfieldin.org		

Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Ambulance/Emergency Services						
Clarian Health Partners	1701 N, Senate Avenue	Glenn Pope	317-962-8146	-		
Rural/Metro Ambulance	3969 Meadows Drive	Kelly Thomas	317-955-3549	-		
Wishard Health Services	1001 W 10th Street, IN 46202	Karl Brady	317-630-6111	-		
Central Indiana Regional Transportation Authority (CIRTA)						
CIRTA	320 N. Meridian, Ste 406, IN 46204		317-327-7588	lkaplan@cirta.us		
Commercial Vehicle Operators						
Federal Express						
Indiana Motor Truck Association	1 N Capitol Ste 460, IN 46204	Gary Langston, President	317-630-4682	gary.langston@imtaonline.net		
United Parcel Service						
Event Promoters/Special Events						
Indiana Black Expo	3145 Meridian, Indianapolis, 46208	Uroosa Khan Development Director		ukhan@indianablackexpo.com		
Indiana Sports Corporation	201 S Capitol, Ste 1200, 46225	Allison Melangton, President	317-237-5000	allison.melangton@indianasportscorp.com		
Indianapolis Convention and Visitors Association	100 South Capitol Ave Indianapolis, 46225	Paul Suiters		paul.suiters@icclos.com		
Indianapolis 500 Festival		Lindsey Hendren	317-614-6130	-		
Indianapolis Downtown, Inc.	1 11 Monument Circle, ste 1900 , 46204	Fred Laughlin	317-237-2222	fred@indydt.com		

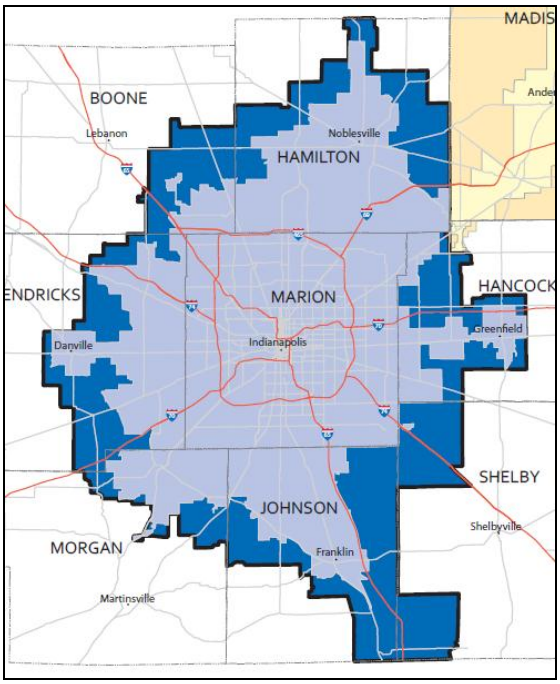
Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Indianapolis Motor Speedway	4790 W 16th Street, IN 46222	Jim Campbell, Public Safety Director	317-492-6534	-		
NCAA Headquarters	P O Box 6222 Indiana 46206	Amy Hockaday	317-917-6344	ahockaday@ncaa.org		
Federal Department of Transportation						
Federal Highway Administration	575 N. Penn. Rm 254 46204	Karen Stippich	317-226-7122	Karen.Stippich@fhwa.dot.gov		
State of Indiana						
Bureau of Motor Vehicles	IGCN 100 N Senate Avenue, 46204	Alex Miller Legislative Director	317-232-0104	almiller@bmv.in.gov		
		Lorell Pritt, Assistant to the Commissioner	317-232-5914	lpritt@bmv.in.gov		
Department of Environmental Mgmt		Max Michael	317-308-3049	MMICHAEL@idem.IN.gov		
Department of Natural Resources	402 W. Washington, Rm W298	Doug Wickersham, Facility Mgr - State	317-591-0904	DWickersham@dnr.IN.gov	State Parks (Fort Harrison)	
Dept of Trans	100 N. Senate Ave., Rm N925 Indianapolis, IN 46204	Steve Wuertz	317-899-8615	swuertz@indot.in.gov		
	7100 E. Troy Indianapolis, IN 46239	Dwayne Myers, Greenfield District	317-467-3465	DMYERS@indot.IN.gov		
City of Indianapolis						
Indianapolis Department of Public Works	1200 S. Madison Ave, Inpls 46204	Nathan Sheets	317-327-8481	nathan.sheets@indy.gov		
		Steve Pruitt,	317-327-2484	steve.pruitt@indy.gov		

Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Indianapolis MPO	200 East Washington Street, Indianapolis, IN	Ryan Wilhite	317-327-5431	ryan.wilhite@indy.gov		
Indianapolis Regional Transportation Council		Greg Ballard, Chair, Indianapolis Mayor		lori.miser@indy.gov	Lori Miser is Ballard's Proxy	
Indianapolis Public Transportation Corporation (dba IndyGo)	1501W. Washington Street, Indpls 46222	Brent Humphress	317-614-9319	bhumphress@indygo.net		
		Annette Darrow	317-614-9211	adarrow@indygo.net		
Indianapolis Airport Authority	2500 S High School Rd, IN 46241	Steve Summers, Ass't Fire Chief	317-487-5272	ssummers@indianapolisairport.com		
		Bill Reardon, Airport Police Chief	317-487-5385	breardon@indianapolisairport.com		
Indianapolis Public Schools Planning	1129 E 16th St, 46202	Tricia Frye	317-226-4554	fryet@ips.k12.in.us		
Major Employers						
American United Life Insurance Co.	One American Square	Cindy, Public Relations	317-285-1877			
Anthem Insurance Co.	120 Monument Circle, 46204	David Henry, Sr Procurement	317-488-6232	-		
Butler University						
Eli Lilly & Co.		Linus Horcher	317-276-3750	horcher_linus_h_m@lilly.com		
IUPUI		Brady McManama, Transportation	317-274-1808	bmcmanam@iupui.edu		
Purdue University		Prof. Darcy Bullock	765-494-2226	darcy@ecn.purdue.edu	Not in MPO jurisdiction, but heavily involved in Indy ITS	

Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Roche Diagnostics	9115 Hague Rd Bldg W	Dan Balascio	317-521-3157	dan.balascio@roche.com		
Media Services						
Metro Traffic						
WISH-TV						
WRTV-TV						
WTHR-TV	1000 N. Meridian St.	Theresa Wells-Ditton	317-655-5794	-		
WXIN-TV						
National Weather Service						
Public Safety Agencies						
Indiana State Police	IGCN-100 N. Senate Ave. 46204	Brent Johnson	317-232-8307	bjohnson@isp.in.gov		
		Major Jeff Walker	317-615-7431	-		
		Lt. Pat Warczynski	317-899-8577	-		
Dept of Homeland Security		Mike Garvey	317-232-3983	mgarvey@dhs.IN.gov		
Indiana National Guard						
Indianapolis - Marion County Emergency		Gary Coons, Chief	317-327-7503	gary.coons@indy.gov		
Indianapolis Metropolitan Police Department		Officer Mike Woida	317-327-3093	w4042@indygov.org		
Marion County Sherrif's Department		Lt. Colonel Louie Dezelan	317-327-1504		Lisa Jakson, assistant	
Indianapolis Fire Department	555 N. New Jersey St. 46204	Chief Rich Longerich	317-327-6054	l1197@indygov.org		
		Chief Joe Krebsbach, Comm.	317-327-6877	k0826@indygov.org		
		James Turner, Operations	317-327-6074	T6389@indygov.org		

Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Metropolitan Emergency Communications Agency	47 S. State Ave.	Jim Cutrell	317-327-5511	Jim.Cutrell@indy.gov	includes Twp. Fire depts., Beech Grove, Lawrence, Speedway	
Carmel Fire Department	2 Civic Square, Carmel, 46032	Keith Smith, Chief	317-571-2600	ksmith@carmel.in.gov		
Carmel Police Department	3 Civic Square	Tim J. Green, Police Chief	317-571-2500	tgreen@carmel.in.gov		
Fishers Fire Department	2 Municipal Dr , Fishers 46038	Brian Lott	317-595-3200	lottb@fishers.in.us		
Fishers Police Department	4 Municipal Dr, Fishers	George Kehl	317-595-3303	kehlg@fishers.in.us		
Franklin Fire Department	1701 N. Main Street, Franklin, 46131	Jim Reese	888-736-3650 ext. 2220			
Franklin Police Department	1 Caisson Dr, Franklin 46131	John Borges	317-736-3670			
Greenwood Fire Department	155 E. Main st. Greenwood, IN 46143	Steve Dhondt	317-887-5226	dhondts@greenwood.in.gov		
Greenwood Police Department	186 Surina Way, Greenwood, IN 46143	Richard McQueary	317-887-5210	mcquearr@greenwood.in.gov		
Lawrence Fire Department	4450 McCoy, Indpls, IN	Jeff Williams, Deputy Chief	317-547-4371	jwilliams@cityoflawrence.org		
Lawrence Police Department	4455 McCoy, Indpls, IN	James Vaughn	317-549-6404			
Noblesville Fire Department	135 S. 9th Street, Noblesville, 46060	Ken Gilliam	317-776-6336	klgilliam@noblesville.in.us		
Noblesville Police Department	135 S. 9th Street, Noblesville, 46060	Kevin Jowitt	317-776-6340	kjowitt@noblesville.in.us		

Stakeholder Name	Stakeholder Address	Stakeholder Contact Person	Contact Person's Telephone Number	Contact Person's Email Address	Comments	Notes
Private ITS Engineering Firms						
Blalock & Brown	445 N. Penn Ste 811 46204	Judie Carmichael Brown	317-453-2026	jbrown@blalock-and-brown.com		
HNTB		Brian Burkhard	312-030-9119			
Varos, Inc.		Justin Stuehrenberg	317-937-8882	justin.stu@gmail.com		
Private ITS Maintenance Contractors						
The Hoosier Co.		Bryan Linenberg	317-340-9339	blinenberg@hoosierco.com		
James H. Drew Corp.		Ken Oyler, President	317-223-1354	koyler@jameshdrew.com		
DeVane Brothers						
Railroad Agencies						
Amtrak	350 S. Illinois Street					
CSX	Jacksonville, FL	Edward Cook	904-381-2212	ed_cook@csx.com		
Hoosier Heritage Port Authority		Rhonda Klopfenstein	317-776-8268	rhondask@frontier.com	State Fair Train	
Towing Operators						
Inter-State Towing	301 S. Kitley, IN 46259	Brian Meyer	317-359-9611	bmeyer2@unitedroadtowing.com		
Utility Companies					Water & Sewer covered by DPW	
AES Ipalco						
Citizens Gas and Coke Utility		Mark Ryan	317-927-4661	mryan@cgcu.com		
SBC Ameritech						



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX D
Stakeholder Survey Template

June 2005

Prepared By

JACOBS

Edwards and Kelcey

for

Indianapolis Metropolitan Planning Organization

INDIANAPOLIS REGIONAL ITS ARCHITECTURE
TECHNICAL ASSISTANCE PROJECT

Stakeholder Survey

Intelligent Transportation Systems (ITS) are one of the tools that transportation agencies, organizations, and operators can use to improve the operations, management, and performance of the transportation network in the Indianapolis area. As a key transportation stakeholder we are seeking to gather information from you concerning:

- the functions or activities that your agency performs
- the systems that your agency currently operates or plans to operate
- the information shared or exchanged between your agency and other agencies

Please complete and return the attached survey to provide key information on transportation needs, issues, and services in your organization and your region, as well as your views on the current and anticipated use of transportation technologies to address these needs. Your answers to the survey questions should be based on your knowledge and experience to minimize the need for additional digging and research. The survey is designed to take 30 minutes or less to complete. Your input is critical to effectively guide and support the successful development and implementation of ITS initiatives in the Indianapolis region and throughout Indiana.

This survey is organized into topical areas: Top Issues/Services, Your Organization/Agency, Traveler Information, Roadway Operations, Transit Operations, Incident/Emergency Management, and Commercial Vehicle Operations. Please complete the sections that you feel apply to your organization or agency. The information you provide will help to develop a framework (blueprint) for organizing, planning, designing, deploying, and operating ITS projects, systems, strategies, and services. The framework will guide the future direction of integrated transportation systems. This survey will also help the Indianapolis Department of Metropolitan Development update earlier inventories of ITS facilities and provide critical data for the development of the ITS activities.

The Indianapolis Department of Metropolitan Development (MPO) has contracted with the consulting team of Edwards and Kelcey (EK) and Blalock and Brown to develop the Regional ITS Architecture for the Indianapolis area. If you have any questions, please feel free to contact either Sweson Yang, MPO Chief Planner, at (317) 327-5137, or David Henkel, EK Project Manager, at (317) 636-1552.

Please email or fax this completed questionnaire to David Henkel of Edwards and Kelcey at dhenkel@ekmail.com , (fax (317) 636-1345) no later than:

Friday, December 10, 2004

Please note that space has been provided at the end of the Your Organization/Agency questions for you to provide additional information and/or comments.

Thank you in advance for your time and cooperation in this important initiative.

Before completing this survey, please provide the following information:

Name: _____

Title: _____

Organization: _____

Address: _____

Phone: _____

Fax: _____

E-mail: _____

Definitions

Traffic Incident/Emergency Management
A system that enables responders to quickly identify crashes/breakdowns and ensure agency coordination so that the closest available and most appropriate emergency unit can be dispatched to minimize clean-up and medical response time.

Freeway Management
Freeway management systems provide information to motorists, detect problems for increased capacity and flow, and minimize congestion from crashes.

Arterial (Non-Freeway) Traffic Management
Systems that monitor traffic flow on arterial street and non-freeway rural roadway systems, provide information to the traveling public, and implement signal timing plans in order to optimize the progression of traffic, including railroad crossing coordination.

Public Transportation Management
Systems that allow new ways of electronic monitoring and management of transit fleets and parking facilities through advanced locating devices and public information systems.

Commercial Vehicle Operations
Systems that support administrative functions for commercial vehicle operations, including credentialing, taxing, and enforcement of safety regulations, as well as oversize/overweight and HAZMAT permitting and detection.

Transportation Security
Systems that detect, respond to, and recover from threats against the surface transportation system and infrastructure.

Top Issues/Services

1. Please identify the top issues related to the local transportation network by ranking the items below from 1 to 12 with 1 being the most critical issue.

___ Unfamiliar Users

___ Road Construction

___ Emergency Inter-Agency Coordination

___ Transit Facilities

___ Weather Condition Info

___ Transportation Security

___ Commercial Vehicle Operations

___ Special Event Traffic Management, i.e. Tourism

___ Emergency Response Time

___ Road Condition Info – Traveler

___ Urban Congestion/Signal Operations

___ Other _____

2. Please identify the top services for mitigating the most critical transportation issues identified above. Rank the items below from 1 to 10 with 1 being the most critical service.

___ HAZMAT Incident Response

___ Emergency Vehicle Management

___ Highway-Rail Intersection Enhancements

___ Traffic Control Enhancements (e.g., Communications, Pre-emption)

___ Other _____

___ Incident Management

___ Pre-trip Traveler Information

___ Commercial Vehicle Operations

___ En-Route Driver Information

___ Public Transportation Operations

INDIANAPOLIS REGIONAL ITS ARCHITECTURE
TECHNICAL ASSISTANCE PROJECT

Your Organization/Agency

1. What are the primary goals and objectives of your organization or agency as it relates to the transportation network?

   _____
   _____
   _____
   _____

2. Is your organization or agency currently carrying out any major projects, including but not limited to operations center construction, highway improvements, vehicle procurement, communications infrastructure, etc.

   ___YES ___NO

   If YES, please describe the project(s) and/or provide project name(s) and available documentation source(s).

   _____
   _____
   _____
   _____

3. Within the next ten years, is your organization or agency planning or has funding been programmed for any major projects, including but not limited to operations center construction, highway improvements, vehicle procurement, communications infrastructure, etc.

   ___YES ___NO

   If YES, please describe the project(s) and/or provide project name(s) and available documentation source(s).
   Continue Communications Project partner with INDOT to upgrade district facilities.

   _____
   _____
   _____
   _____

4. Does your organization or agency exchange voice or data information (such as by telephone or fax) with any of the following types of organizations/agencies? Please circle all that apply and list the appropriate organizations/agencies by name.

Incident/Emergency _____
_____

Freeway _____
_____

Public Transportation _____
_____

Arterial or Non-Freeway _____
_____

Commercial Vehicle _____
_____

Traveler Information _____
_____

5. What specific types of information do you share with these organizations/agencies?

Incident/Emergency_____
_____

Freeway_____
_____

Public Transportation_____
_____

Arterial or Non-Freeway _____
_____

Commercial Vehicle _____
_____

Traveler Information _____
_____

6. Please list any current partnerships, agreements, or memoranda of understanding that your organization or agency has in place with any other organizations/agencies (e.g., maintenance of traffic signals, data sharing, media agreements).

   _____
   _____
   _____
   _____

7. Does your organization or agency have (or plan to have) a vehicle fleet?

   ___YES ___NO ___PLANNED

   If NO, skip to question #11.

   If YES:

   How many vehicles? _____
   What is the primary function? _____
   Secondary function? _____

8. Does your organization or agency provide (or plan to provide) maintenance of the vehicles in your fleet?

   ___YES ___NO ___PLANNED

9. Does your organization or agency use (or plan to use) vehicle maintenance scheduling software to manage both routine and corrective maintenance activities on vehicles?

   ___YES ___NO ___PLANNED

10. Does your organization or agency use (or plan to use) an Automated Vehicle Location (AVL) system?

    ___YES ___NO ___PLANNED

11. Does your organization or agency operate or maintain (or plan to operate or maintain) a dispatch facility?

    ___YES ___NO

    If NO, skip to question # 13.

    If YES, what are the hours of operation? _____

    If YES, how do your dispatchers communicate with the vehicle operators?

    _____
    _____
    _____

12. Does your organization or agency currently perform (or plan to perform) Computer Aided Dispatch (CAD) of your vehicles?

    ___YES ___NO ___PLANNED

13. Does your organization or agency use Geographic Information Systems (GIS)?

    ___YES ___NO

    If YES, what types of information are GIS used for?

    _____
    _____

14. What type of radio communications system, if any, does your organization or agency currently operate?

    _____
    _____

15. Who in your organization or agency oversees your communications systems?

    _____
    _____

16. Based on your understanding of technology in transportation, what opportunities do you see for the application of ITS technologies in your area?

    _____
    _____
    _____
    _____
    _____

Additional Information / Comments

Traveler Information

1. Does your organization or agency receive (or plan to receive) information from the National Weather Service?

   ___YES ___NO ___PLANNED

2. Does your organization or agency receive (or plan to receive) surface transportation specific weather information from a private weather information service?

   ___YES ___NO ___PLANNED

3. Does your organization or agency use (or plan to use) any of the following real-time traffic data collection technologies?

   ___VEHICLE DETECTORS

   ___VIDEO DETECTION

   ___VEHICLE PROBE READERS

   ___SURVEILLANCE CAMERAS

   ___ROAD WEATHER INFORMATION SYSTEMS

   ___OVERHEIGHT VEHICLE DETECTION

   ___OTHER_____

4. Does your organization or agency process and store (or plan to process and store) collected traffic data for use in operations or for dissemination to the traveling public?

   ___YES ___NO ___PLANNED

5. Does your organization or agency disseminate (or plan to disseminate) traffic, transit, or weather condition information in any of the following ways?

___TV/RADIO	___DYNAMIC MESSAGE SIGNS
___INTERNET	___PAGERS or PDAs
___KIOSKS	___E-MAIL
___HIGHWAY ADVISORY RADIO	___ROUTE GUIDANCE
___511 OR OTHER TELEPHONE	___PERSONALIZED TRAFFIC INFO
___OTHER_____	

6. Do you feel that your organization or agency collects transportation information that could be included in a statewide traveler information outlet, like an Internet website or 511 Traveler Info?

___YES ___NO

If YES, please describe the information below.

_____
_____
_____

Roadway Operations

1. Does your organization or agency use (or plan to use) environmental data or information to detect environmental hazards such as icy road conditions, high winds, or dense fog?

   ___YES ___NO ___PLANNED

   If YES, at how many locations? _____

2. Does your organization or agency detect and verify (or plan to detect and verify) traffic incidents?

   ___YES ___NO ___PLANNED

3. Does your organization or agency control (or plan to control) any signalized intersections?

   ___YES ___NO ___PLANNED

   If NO, skip to question # 5.

   If YES, how many intersections? _____

   If YES, do any of your signalized intersections have:

   ___SIGNAL PRE-EMPTION ___CLOSED LOOP OPERATION

   ___TRANSIT PRIORITY ___ADAPTIVE TRAFFIC CONTROL

   ___WIRELESS COMMUNICATIONS

   ___OTHER_____

4. Does your organization or agency have (or plan to have) any signalized intersections that are interconnected with active railroad crossing devices?

   ___YES ___NO ___PLANNED

   If YES, how many intersections? _____

5. Does your organization or agency monitor highway-rail intersections with any of the following technologies?

   ___VEHICLE DETECTORS

   ___VIDEO DETECTION

   ___TRAIN ARRIVAL PREDICTION

   ___ELECTRONIC TRAFFIC VIOLATOR DEVICES

   ___OTHER _____

6. Does your organization or agency operate (or plan to add) lane control devices (e.g., changeable overhead directional arrows) on the freeways?

   ___YES ___NO ___PLANNED

7. Does your organization or agency manage (or plan to manage) automatic or remotely controlled gates or barriers that control access to roadway segments including ramps and traffic lanes?

   ___YES ___NO ___PLANNED

8. Does your organization or agency provide or support (or plan to provide or support) on-going operations and maintenance activities?

   ___YES ___NO ___PLANNED

9. Does your organization or agency perform (or plan to perform) winter maintenance activities?

   ___YES ___NO ___PLANNED

10. Does your organization or agency have (or plan to have) any roadway deicing systems?

    ___YES ___NO ___PLANNED

11. Does your organization or agency manage roadway work zone activities?

___YES ___NO

If YES, please identify below the devices or systems currently deployed or planned for work zone monitoring.

___DYNAMIC MESSAGE SIGNS ___CLOSED CIRCUIT TELEVISION

___VEHICLE SPEED MONITORING ___WORK ZONE INTRUSIONS

___OTHER_____

INDIANAPOLIS REGIONAL ITS ARCHITECTURE
TECHNICAL ASSISTANCE PROJECT

Transit Operations

1. What types of transit services does your organization or agency operate?

   ___FIXED ROUTE ___DEMAND RESPONSIVE (PARATRANSIT)

   ___RAIL ___OTHER _____

2. Does your organization or agency provide (or plan to provide) dynamic transit information at stops or parking facilities?

   ___YES ___NO ___PLANNED

3. Does your organization or agency have (or plan to have) security monitoring systems on-board transit vehicles?

   ___YES ___NO ___PLANNED

4. Does your organization or agency perform security monitoring (or plan to monitor) non-public areas (e.g. transit yards or other infrastructure)?

   ___YES ___NO ___PLANNED

5. Does your organization or agency provide transit trip planning in any of the following ways?

   ___INTERNET ___E-MAIL

   ___KIOSKS ___OTHER _____

6. Does your organization or agency have (or plan to have) an Electronic Fare Payment System (smart card, swipe card, credit card, etc.)?

   ___YES ___NO ___PLANNED

INDIANAPOLIS REGIONAL ITS ARCHITECTURE
TECHNICAL ASSISTANCE PROJECT

Incident/Emergency Management

1. Does your organization or agency use (or plan to use) mobile data terminals (MDT)?

   ___YES ___NO ___PLANNED

2. Does your organization or agency use (or plan to use) emergency vehicle pre-emption at any signalized intersections?

   ___YES ___NO ___PLANNED

3. Does your organization or agency participate (or plan to participate) in any kind of incident management program or coordination activities (such as major incident debriefing, tabletop exercises, etc.)?

   ___YES ___NO ___PLANNED

4. Does your organization or agency monitor (or plan to monitor) the transportation infrastructure (e.g., bridges, tunnels, and management centers) for potential threats using sensors and surveillance equipment?

   ___YES ___NO ___PLANNED

5. Does your organization or agency monitor (or plan to monitor) public travel-related areas such as transit stations, transit stops, rest stops, and kiosk locations for potential threats using sensors and surveillance equipment?

   ___YES ___NO ___PLANNED

6. Does your organization or agency use (or plan to use) driver and traveler information systems to alert the public in emergency situations such as child abductions, severe weather events, civil emergencies, and other situations that pose a threat to life and property?

   ___YES ___NO ___PLANNED

7. Does your organization or agency monitor (or plan to monitor) and detect potential, looming, and actual disasters including natural disasters and technological and man-made disasters (hazardous materials incidents, nuclear, chemical, biological, and radiological attacks) and notify all responding agencies of detected emergencies?

___YES ___NO ___PLANNED

8. Does your organization or agency support (or plan to support) disaster response and recovery, including coordination of emergency response plans and resources, damage assessment, service restoration, and transition back to normal operation?

___YES ___NO ___PLANNED

9. Does your organization or agency support (or plan to support) evacuation of the general public from a disaster area and manage subsequent reentry to the disaster area using transportation resources?

___YES ___NO ___PLANNED

10. Does your organization or agency provide (or plan to provide) disaster-related traveler information to the general public, regarding evacuation and reentry information and other information concerning the operation and availability of the transportation system during a disaster?

___YES ___NO ___PLANNED

Commercial Vehicle Operations

1. Does your organization or agency perform (or plan to perform) electronic credential administrative services for commercial vehicles?

   ___YES ___NO ___PLANNED

2. Does your organization or agency participate (or plan to participate) in roadside commercial vehicle inspection?

   ___YES ___NO ___PLANNED

   If NO, no further responses are required in this section.

3. Does your organization or agency perform (or plan to perform) electronic screening?

   ___YES ___NO ___PLANNED

4. Does your organization or agency exchange (or plan to exchange) safety and/or security information?

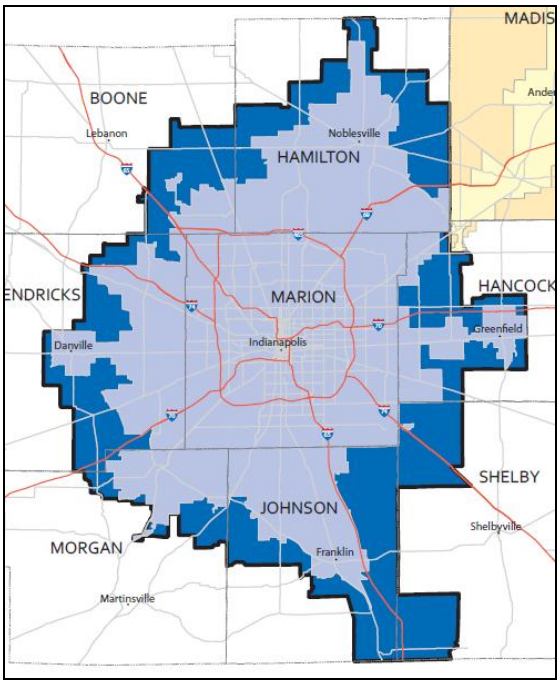
   ___YES ___NO ___PLANNED

5. Does your organization or agency participate (or plan to participate) in high speed weigh-in-motion services?

   ___YES ___NO ___PLANNED

6. Does your organization or agency participate (or plan to participate) in HAZMAT detection?

   ___YES ___NO ___PLANNED



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX E
Telephone Interview Template

June 2005

Prepared By

JACOBS

Edwards AND Kelcey

for

Indianapolis Metropolitan Planning Organization

Name: _____

Agency: _____

Job Title: _____

"Thank for taking the time today to participate in this telephone interview. As part of this project, it is crucial that we contact key stakeholders to gain a comprehensive understanding of the Indianapolis transportation network."

Provide overview of ITS/ITS architecture/the project, answer any questions.

⇨ If they did not return a survey, go through appropriate survey questions.

⇨ After the survey questions (or if they already returned a survey), use the following to elaborate on their answers:

1. From your agency's perspective, what do you feel are the most overall pressing **needs** or most critical areas that need attention in the next 5 to 10 years?

2. From your agency's perspective, what **services** do you provide to the public (relate to ITS)? What **roles and responsibilities** do your agency have to the public?

3. What **systems** do you have that provide these systems (define 'system,' use ITS examples)?

4. Are plans in place to enhance these current systems or add new systems (**projects**)?

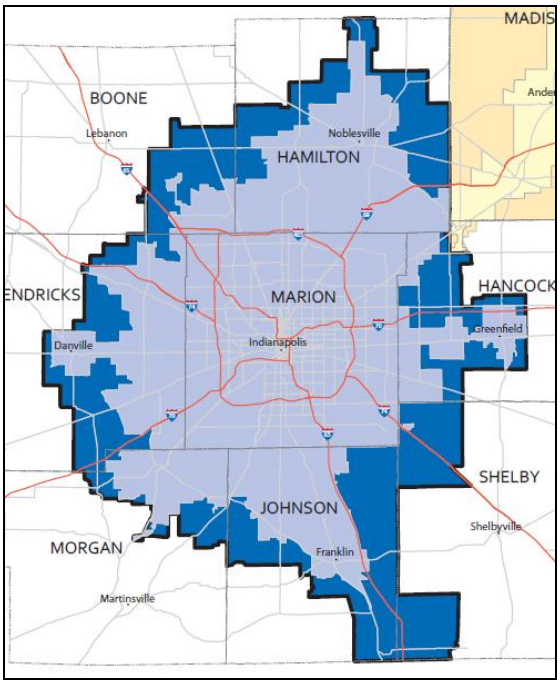
5. With what **other agencies** do you coordinate to perform these services? What **data** is communicated to and from these agencies?

6. Do you have any **agreements** with these other agencies (who, what type, timeframe)?

⇨ Differentiate between existing, planned, future for all items.

Provide info on Feb. 8th Stakeholder Workshop.

AD – Archived Data Management
APTS – Advanced Public Transportation
ATIS – Traveler Information
ATMS – Traffic Management
CVO – Commercial Vehicle Operations
EM – Emergency Management
MCO – Maintenance and Construction Management



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX F
Stakeholder Workshop Notes

June 2005

Prepared By

JACOBS

Edwards and Kelcey

for

Indianapolis Metropolitan Planning Organization

Edwards AND Kelcey
ENGINEERS
ARCHITECTS
PLANNERS
CONSTRUCTORS

WORKSHOP NOTES

DATE: Tuesday, February 8, 2005, 8:30 am – 3:30 pm

LOCATION: Indianapolis Traffic Management Center, Conference Rooms A & C

ORIGINATED BY: Dave Henkel

RECORDED BY: Matt Letourneau

PARTICIPANTS: See attached list.

SUBJECT: Indianapolis ITS Architecture Stakeholder Workshop

Welcome and Introductions

Indianapolis MPO Project Manager Sweson Yang welcomed the attendees and thanked them for their participation. He emphasized that the Indianapolis Metropolitan Planning Organization (MPO) should serve as a forum to discuss common transportation issues between agencies and highlighted intelligent transportation systems (ITS) as a tool that all transportation stakeholders in the region can use to address the challenges they face.

Overview of ITS, the Architecture Process, and the Statewide ITS Architecture

Dave Henkel of Edwards and Kelcey (EK) led introductions around the room and went through the agenda. Gary Rylander (EK) followed with an overview of ITS and a discussion of the reasons for developing an ITS architecture. Meggan Simpson of the Indiana Department of Transportation (INDOT) ITS Program Office provided an update on the Indiana Statewide ITS Architecture. Ms. Simpson noted that the Statewide Architecture would address broader, statewide transportation elements and services, including commercial vehicle operations. Dennis Lee of the Federal Highway Administration (FHWA) described current parallel ITS architecture efforts in other metropolitan areas of Indiana.

Matt Letourneau (EK) led the participants through the day's tasks, which are based on the FHWA's six-step process for developing a regional ITS architecture:

- Step #1 – Get Started (identify need, define region, identify stakeholders, identify champions)
- Step #2 – Gather Data (inventory systems, determine needs and services, develop operational concept, define functional requirements)
- Step #3 – Define Interfaces (identify interconnects, define information flows)

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- Step #4 – Implementation (define project sequencing, develop list of agency agreements, identify ITS standards)
- Step #5 – Use the Regional Architecture
- Step #6 – Maintain the Regional Architecture

ITS Architecture Development Process Step #1 – Get Started/Project Update

Using examples from the Indianapolis Early Deployment Plan (EDP) and from the United States Department of Transportation (USDOT), Mr. Henkel led the group in a visioning exercise. The attendees considered a number of critical transportation issues identified in the EDP and based on the collective experience of the project team. Each transportation issue was defined, discussed, and compared. It was noted that many of the issues are interrelated, and that addressing one issue may lead to improvements in other areas. The attendees also discussed similarities between some of the identified issues and defined distinctions between them, such as 'safety' (local issue, such as traffic incident response) and 'security' (large scale issue, such as disaster warning systems).

After discussion, the identified issues were prioritized through a voting process. The prioritized list of issues is as follows:

1. Safety (9 votes)
2. Efficiency (9 votes)
3. Interagency communication (7 votes)
4. Security (6 votes)
5. Traveler Information (6 votes)
6. Mobility (5 votes)
7. Integration of systems/services (4 votes)
8. Improvement in the environment (4 votes)
9. Productivity (3 votes)
10. Maintenance and construction (3 votes)
11. Transportation data (1 vote)
12. Energy reduction (0 votes)

These prioritized issues will serve as the basis for the development of ITS goals and objectives for the region.

The top issues were then used to construct an ITS vision statement for Indianapolis. An initial vision statement, based on the EDP vision, was created:

> "enhanced transportation efficiency, safety, and security within the region with an improvement in interagency communication and traveler information through the use of cost effective ITS technologies and systems."

Further discussion turned to the issues of economic development, social justice, and environmental concerns. As a result, the vision statement was reconfigured as follows:

> "to enhance the sharing of information to maximize the efficiency, safety, and security of the transportation system and to encourage modal integration and consumer choices, promote economic development, and improve social and environmental quality."

Next, Mr. Henkel presented details of the Indianapolis ITS architecture that had been previously defined, including the different architecture development roles, the geographic boundary of the architecture, the level of detail addressed in the architecture, the timeframe of the architecture, and the list of identified stakeholders. The attendees were encouraged to provide names and contact information for any stakeholders not yet included in the project.

ITS Architecture Development Process Step #2 – Gather Data

Through surveys and telephone interviews, the project team had developed a listing of ITS systems and services in the Indianapolis region. This information was entered into Turbo Architecture® software where it could be expanded and customized. Mr. Letourneau used the Turbo Architecture screens to lead the attendees through the identified ITS systems and services, providing explanations and descriptions of each. Attendees were asked to provide additional ITS elements and services for inclusion in the architecture. The following items were discussed during the ITS systems inventory:

- The Convention Center uses both permanent and portable information kiosks.
- The RCA Dome has a command center that is used by multiple agencies during events.
- The Indianapolis Airport has an internal police and fire department.
- Indianapolis Fire and Police house their dispatching functions within the Metropolitan Emergency Communications Agency (MECA) building, but MECA does not perform dispatching duties. MECA does provide all communications equipment and the communications network.
- Counties bordering Marion County are included in the architecture as "Surrounding Counties."
- Hoosier Helpers vehicles in Indianapolis will soon be able to access vehicle data and video from highway cameras.
- Indiana State Police (ISP) provides weather and incident information to travelers through a telephone hotline and the ISP website.
- Commercial vehicle operations will be included in the Indiana Statewide ITS Architecture and not in the Indianapolis Regional ITS Architecture.

- A suggestion was made to include taxi services in the architecture.
- Township fire dispatch is via IFD. Beech Grove, Lawrence, Speedway and the Airport are separate.
- Maintenance requests are routed from the mayor's office to the Department of Public Works (DPW).
- FedEx and other major employers could be included in the architecture.
- School systems (IPS/Townships) should be included as ITS stakeholders.
- The Avon Rail Yard (CSX) should be included in the architecture.

The following issues were raised during the ITS services inventory (designations refer to the National ITS Architecture 'market packages'):

- ATMS01 – the Indianapolis Airport has surveillance cameras for both security and traffic management.
- ATMS07 – INDOT and the Indianapolis DPW coordinate the operation of traffic signals in adjacent closed loop systems.
- ATMS09 – INDOT and the Indianapolis DPW plan to use traffic data for planning purposes.
- ATMS11 – INDOT and the Indianapolis DPW do not use road weather information systems (RWIS) for emissions management.
- ATMS12 – Hoosier Helpers may fall under this market package, which describes the functions of a mobile traffic management center.
- ATMS16 – Indianapolis Downtown, Inc. provides parking data for travelers.
- ATMS19 – speed enforcement data is not provided to law enforcement in Johnson County.
- MC01 – the Indianapolis DPW will have the ability to track maintenance vehicles using automated vehicle locationing (AVL) in the future.
- MC05 – INDOT is considering automatic deicing systems for the future.
- MC09 – work zone safety monitoring is not done at INDOT or DPW.
- CVO06 – INDOT has weigh-in-motion stations within the metropolitan planning area.
- CVO10 – INDOT performs HAZMAT management tasks.
- EM03 – emergency services in the region to not have dedicated communications lines with driver mayday systems, like OnStar.

<u>Operational Scenarios</u>
In order to further identify stakeholder roles and responsibilities, the attendees formed three groups, each to discuss a different operational scenario. During the resulting discussions, the attendees explained how each of their agencies would participate in the response to these scenarios, what other agencies they would talk to, and what information would be exchanged. Key points for each scenario are summarized below:

Group #1 – Bomb threat at the RCA Dome

- Dome Control, the internal emergency management, would respond to the incident from its Emergency Command Center. Dome Control would contact other agencies, such as: Indianapolis Police Department (IPD), Indianapolis Fire Department (IFD), Indianapolis DPW, FBI, CSX Rail, ISP, and emergency medical services (EMS), through the use of 900 MHz radios and telephone.
- Upon receiving the call, Dome Control would enact its emergency response plan and investigate.
- Dome Control has pre-planned messages that it would disseminate to evacuate the building.
- Dome Control would contact INDOT to facilitate evacuation.
- The media would be informed of the situation through radio scanners.
- IPD would provide on-site traffic control.

Group #2 – HAZMAT rollover at the I-65/70 North Split

- ISP and INDOT would work together to detect and respond to the incident.
- ISP and INDOT would use the Advanced Traveler Information System (ATIS), an automated paging system. ATIS includes contact lists that would be used depending on the particular type of incident.
- A number of agencies would be involved in a HAZMAT spill, such as: IFD (HAZMAT Team), IPD, Emergency Management, Environmental Management, and DPW; Marion County Sheriff; EMS, public officials, and schools.
- Most agencies have 800 MHz radios, and use mutual aid channels to communicate.
- Dispatch centers coordinate incident communications, and then relay appropriate channel to field units.
- CHEMTREK, a national chemical database, would be consulted to determine response.
- An overall command post would be set up to manage the incident.
- There are many HAZMAT teams in the region, but some surrounding counties only have one. Mutual aid agreements help to provide necessary response.
- Computer-aided dispatch helps to identify incident jurisdiction.

Group #3 – Tornado approaching the Indianapolis Motor Speedway (IMS)

- The National Weather Service would send out an “all points bulletin” to dispatch facilities.
- The IMS Emergency Operations Center (EOC) would direct response activities. All participating agencies would be represented in the EOC, including: INDOT (Hoosier Helpers), IPD, IFD, Marion County Sheriff, ISP, and Speedway Police. EMS would also be notified. The Statewide Emergency Management Agency would be notified when local response options had been exhausted.

- Emergency Management would also be involved, and would activate emergency siren.
- Traffic routes could be altered for the evacuation (ISP, IPD, Marion County decision).
- The Indianapolis DPW would be notified of power outage repairs and would perform building inspections after the storm passes.

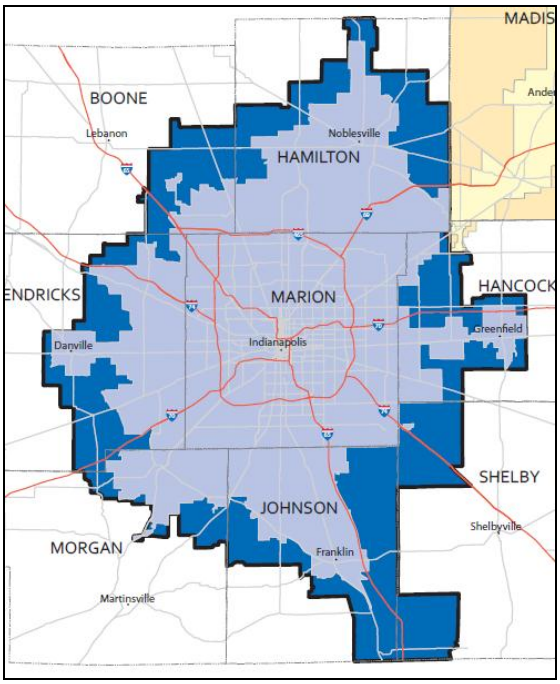
Conclusion

Mr. Lee explained the review and approval process for the Indianapolis ITS Architecture, citing the April 8th, 2005 deadline for architecture completion (to receive federal funding from the National Highway Trust Fund). The architecture will be submitted to both the FHWA and the Indianapolis MPO. The FHWA will review the architecture and provide comments, but will not officially approve the architecture. Phil Roth of the Indianapolis MPO, explained that his agency, specifically the Indianapolis Regional Transportation Council (IRTC) Technical Committee, will be responsible for approving the architecture.

Mr. Yang concluded the workshop by describing air quality requirements that will take effect for the region over the course of the next four years and how ITS projects will need to observe these requirements.

The workshop concluded at 3:30 pm.

PARTICIPANTS:		
	Phil Roth	Indianapolis MPO
	Sweson Yang	Indianapolis MPO
	Dennis Lee	Federal Highway Administration
	Karen Stippich	Federal Highway Administration
	Shandrian Jarvis	Federal Highway Administration
	Drew Williams	Town of Fishers
	Brad Davis	Hamilton County
	Brian Burkhard	HNTB Corporation
	Mark Newland	INDOT
	Meggan Simpson	INDOT
	Tisha Eder	Indiana Motor Truck Association
	Nathan Sheets	Indianapolis DPW
	Chief Joe Krebsbach	Indianapolis Fire Department
	Cpt. Guy Boruff	Indiana State Police
	Maj. Thomas Melville	Indiana State Police
	Jerry Bridges	Madison County Council of Governments
	Peter Mitchell	Madison County Council of Governments
	Kevin Deane	RCA Dome
	Dave Henkel	Edwards and Kelcey
	Matt Letourneau	Edwards and Kelcey
	Gary Rylander	Edwards and Kelcey
	Judy Carmichael-Brown	Blalock and Brown



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX G
Interconnect Diagrams

October 2014

Originally Prepared By

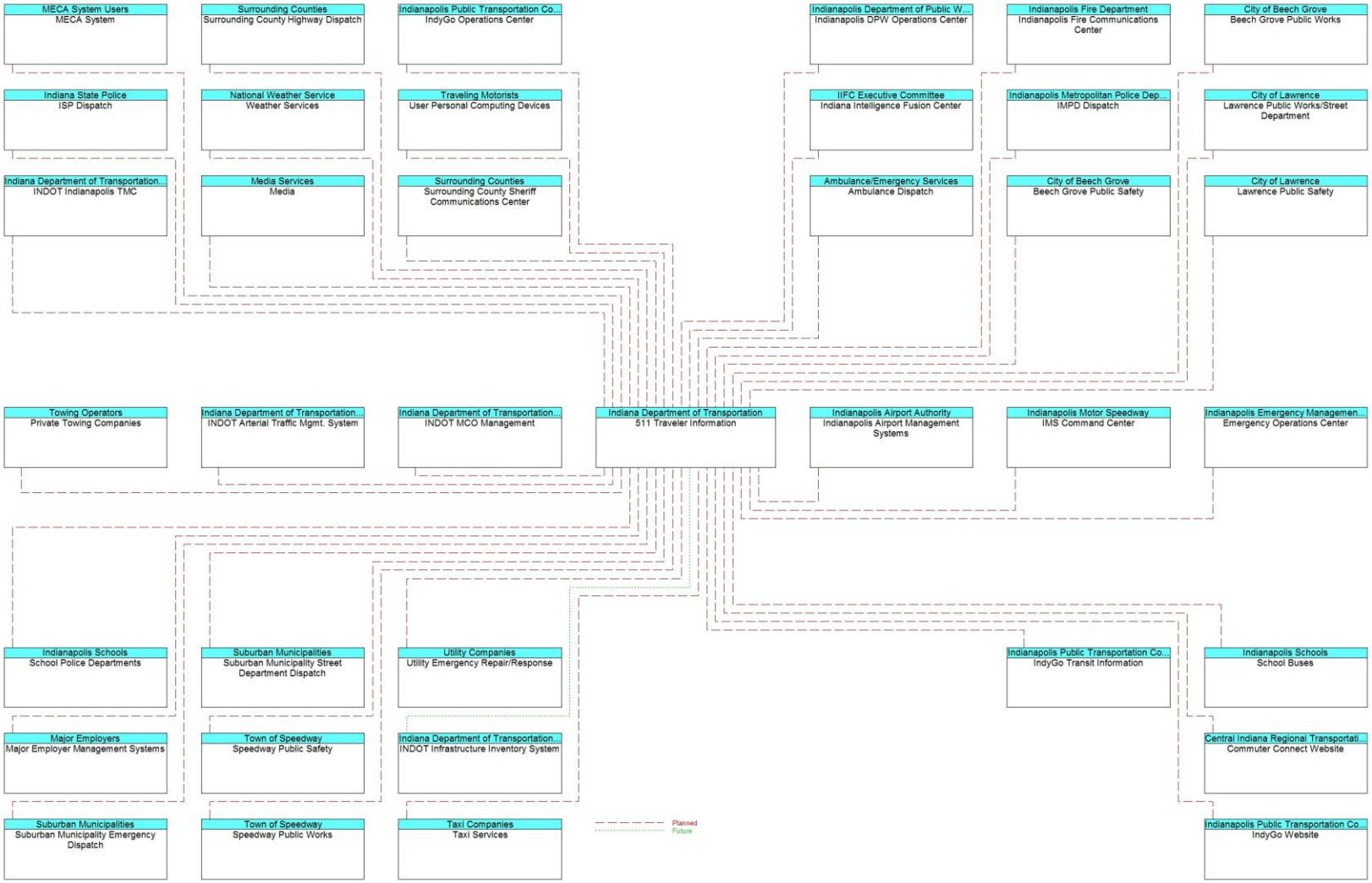
JACOBS

Edwards and Kelcey

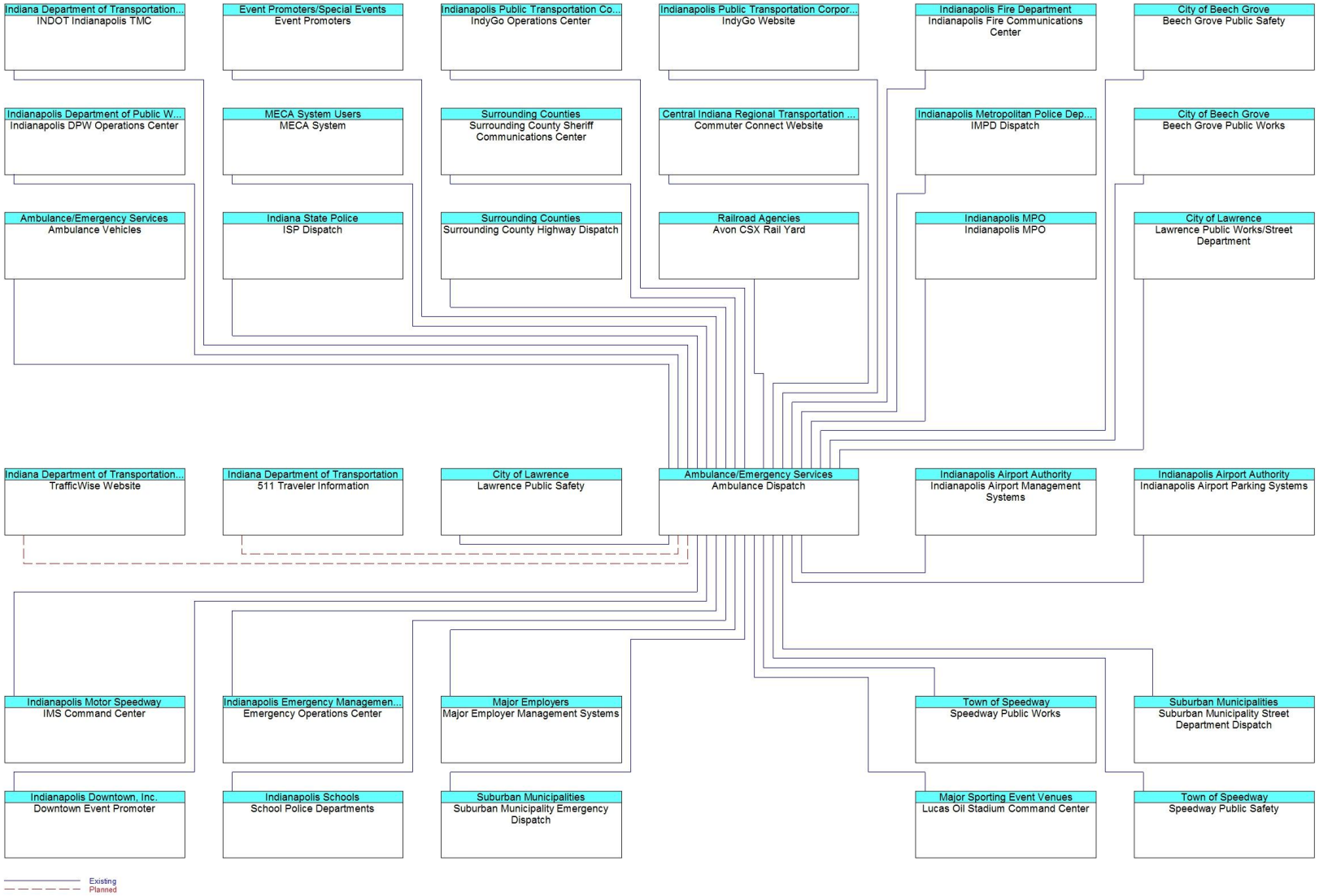
Updated by Varos, LLC

for

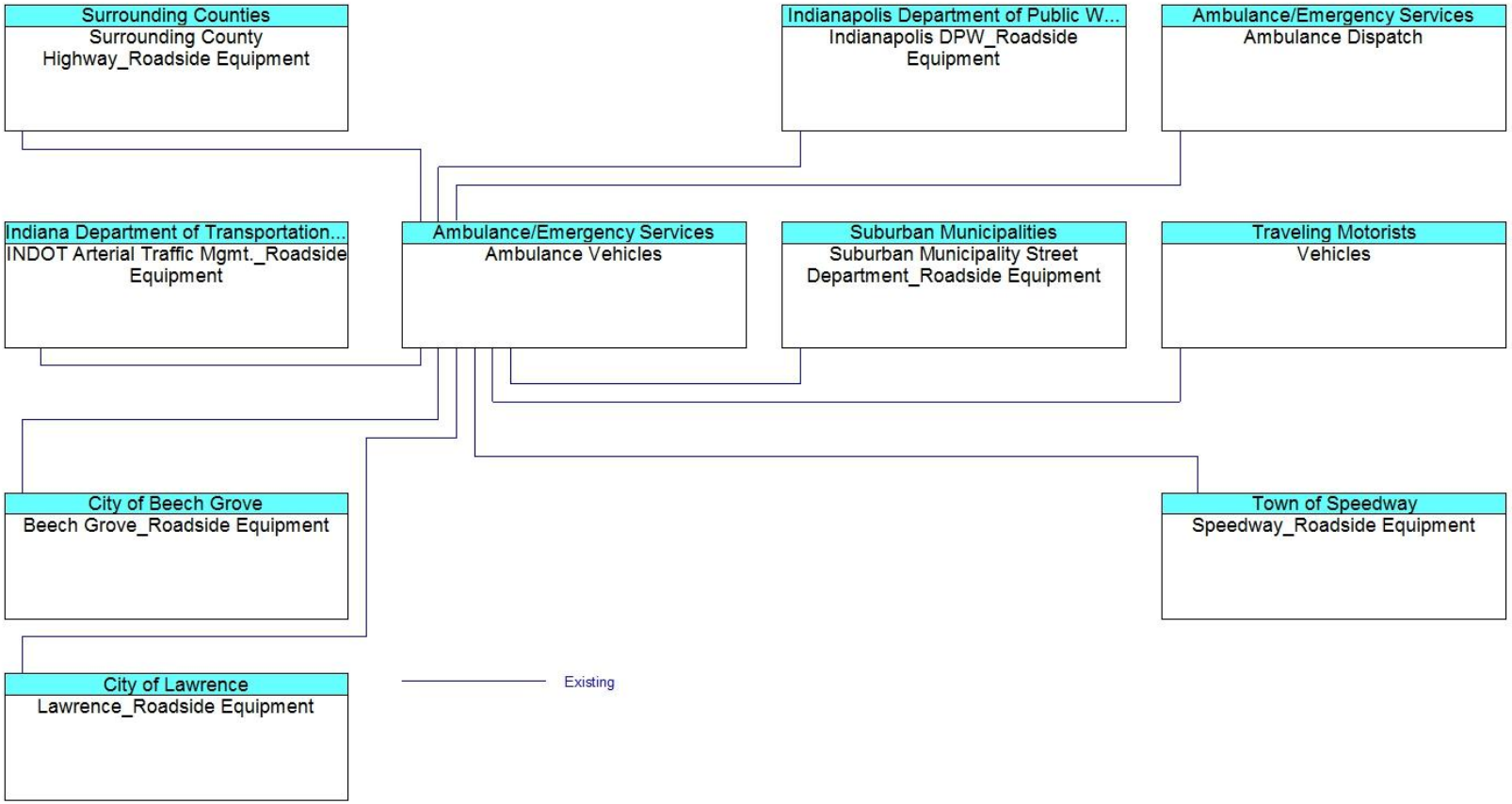
Indianapolis Metropolitan Planning Organization



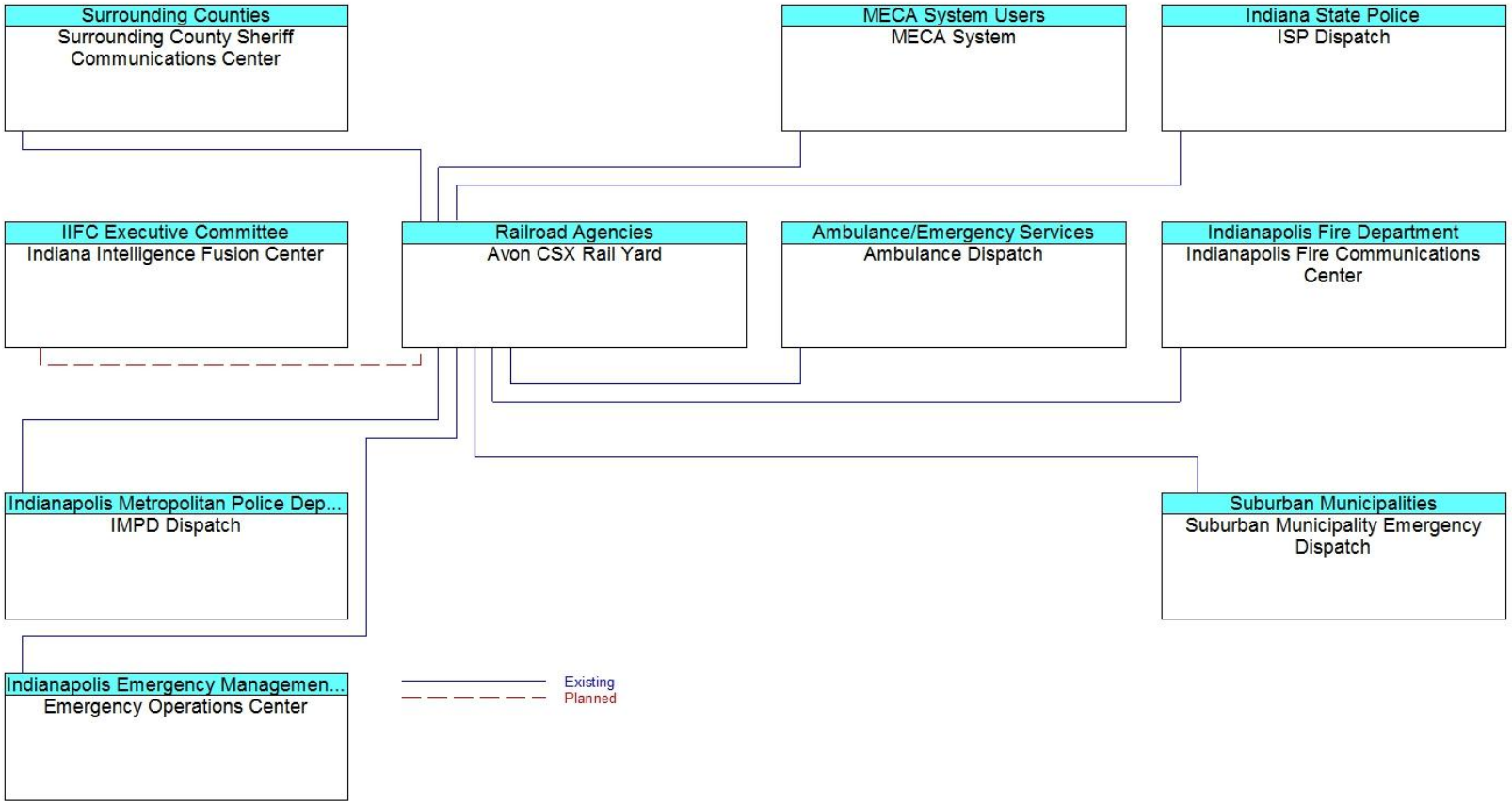
511 Traveler Information



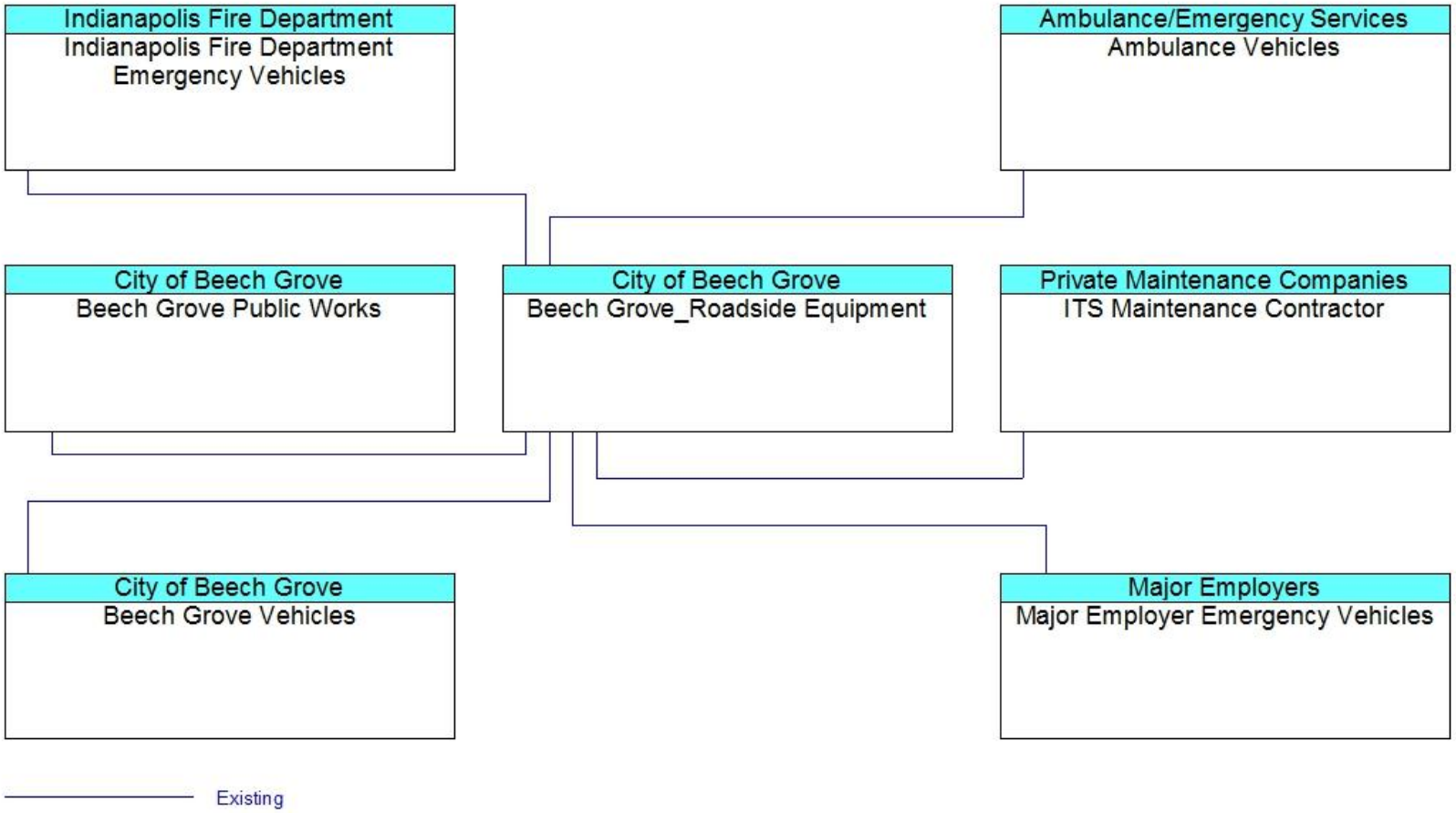
Ambulance Dispatch



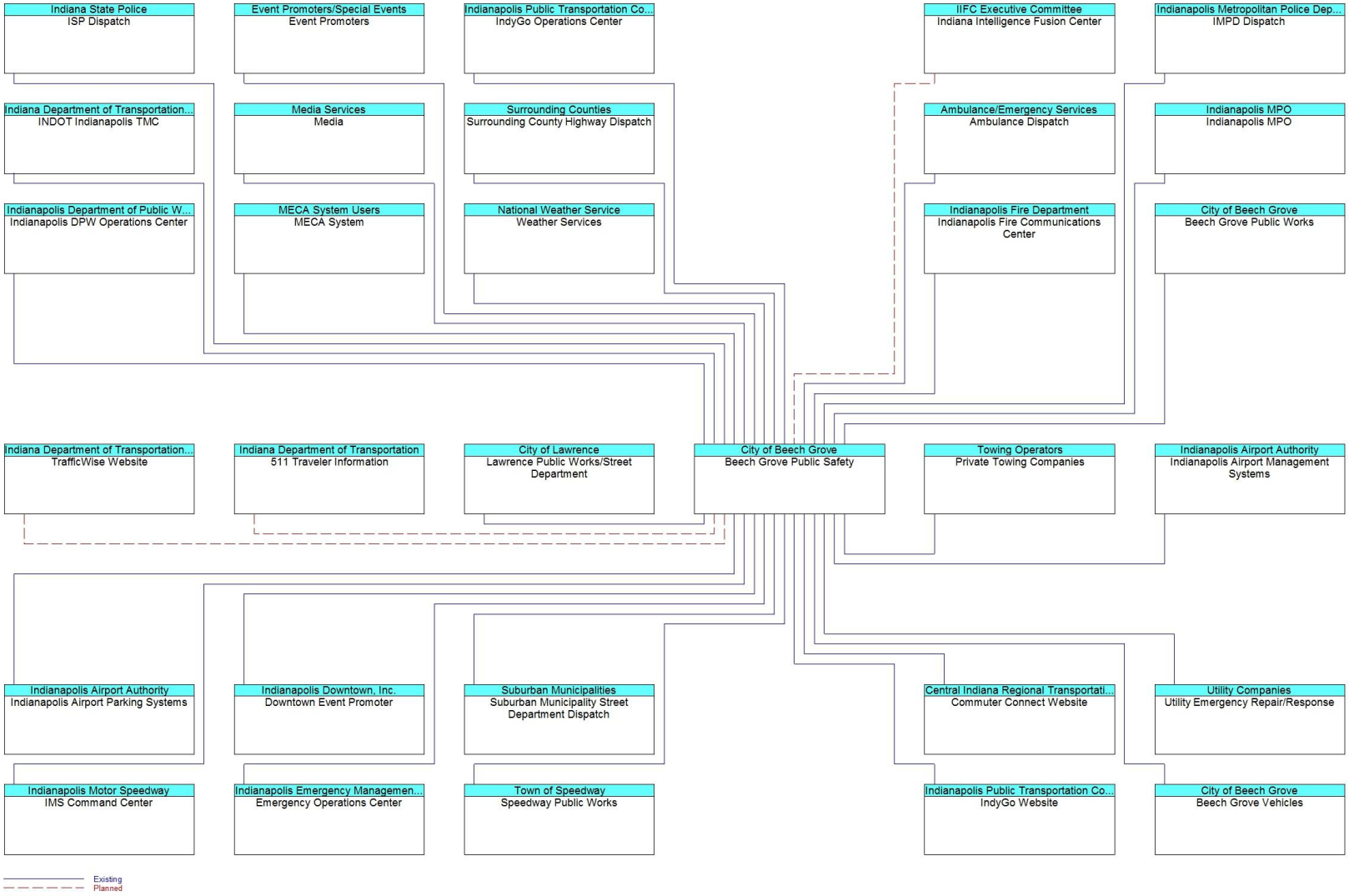
Ambulance Vehicles



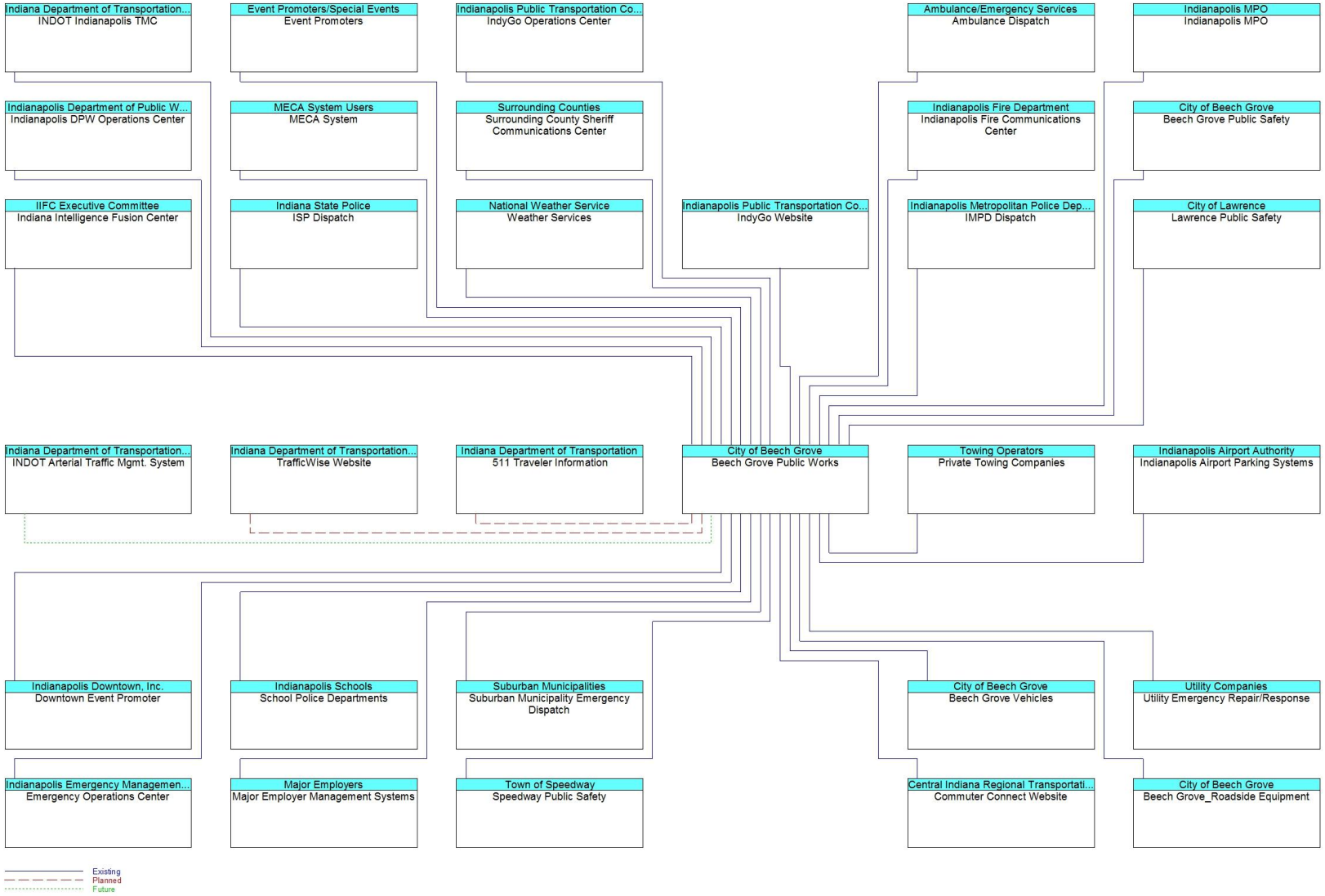
Avon CSX Rail Yard



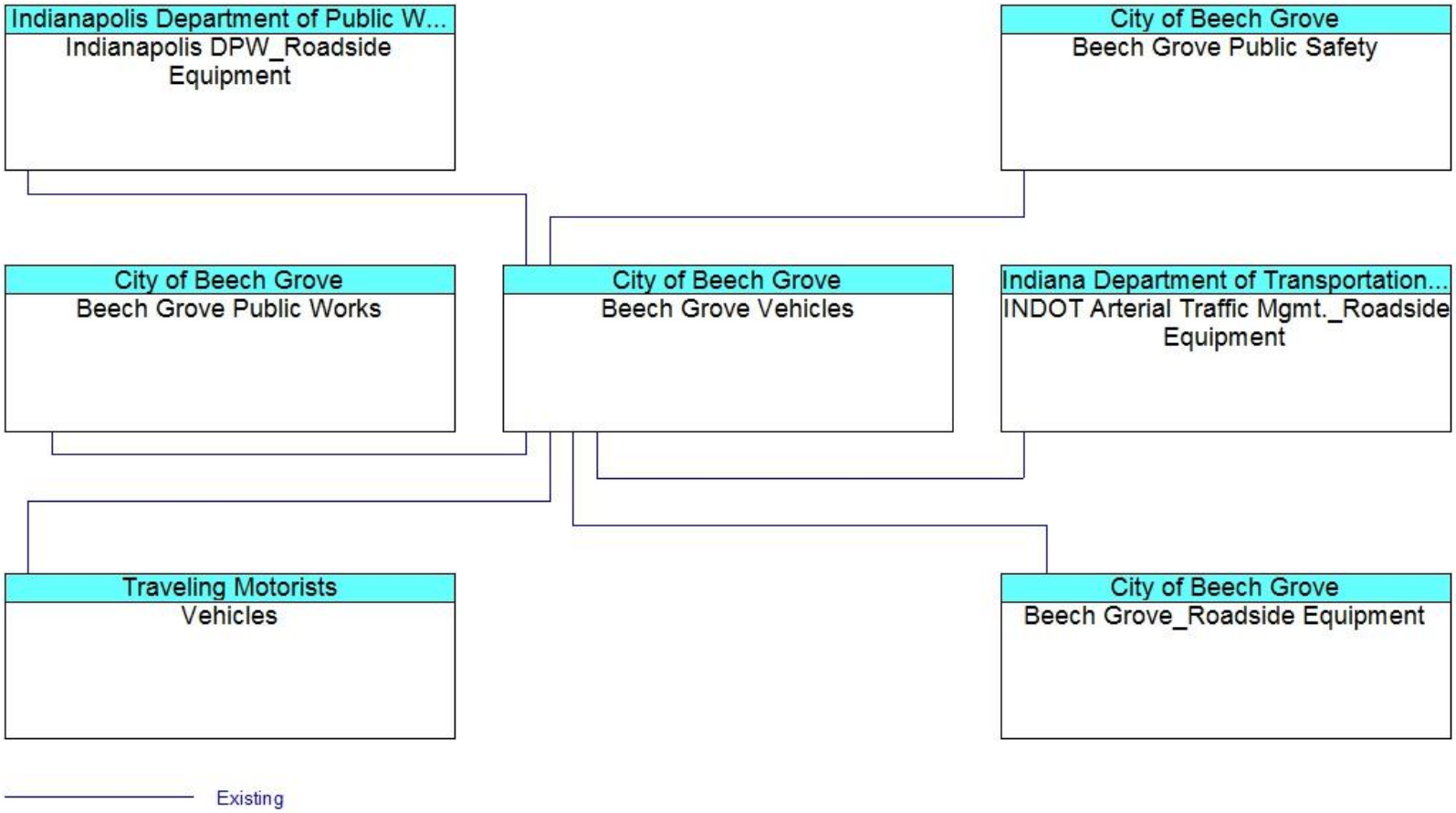
Beech Grove Roadside Equipment



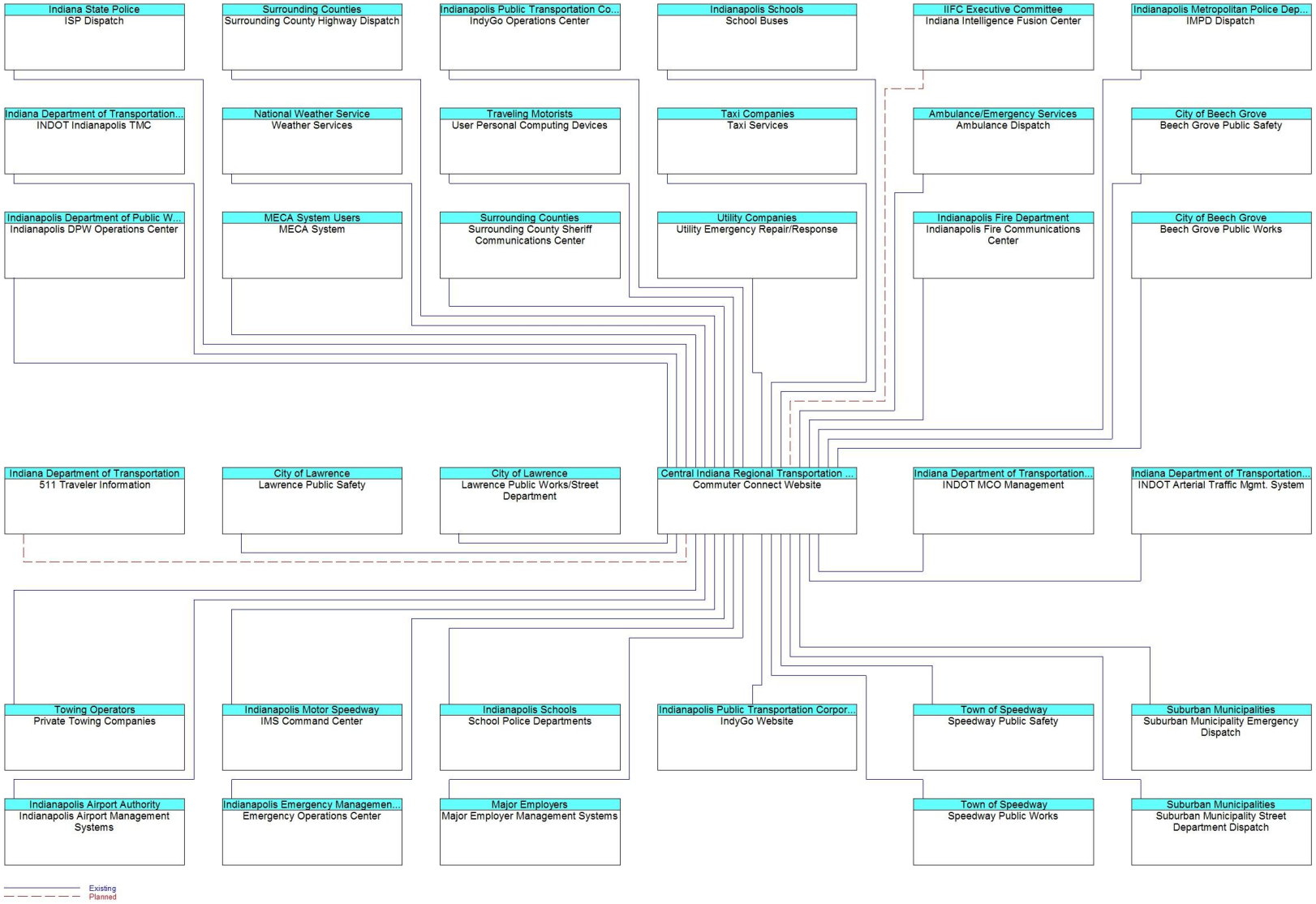
Beech Grove Public Safety



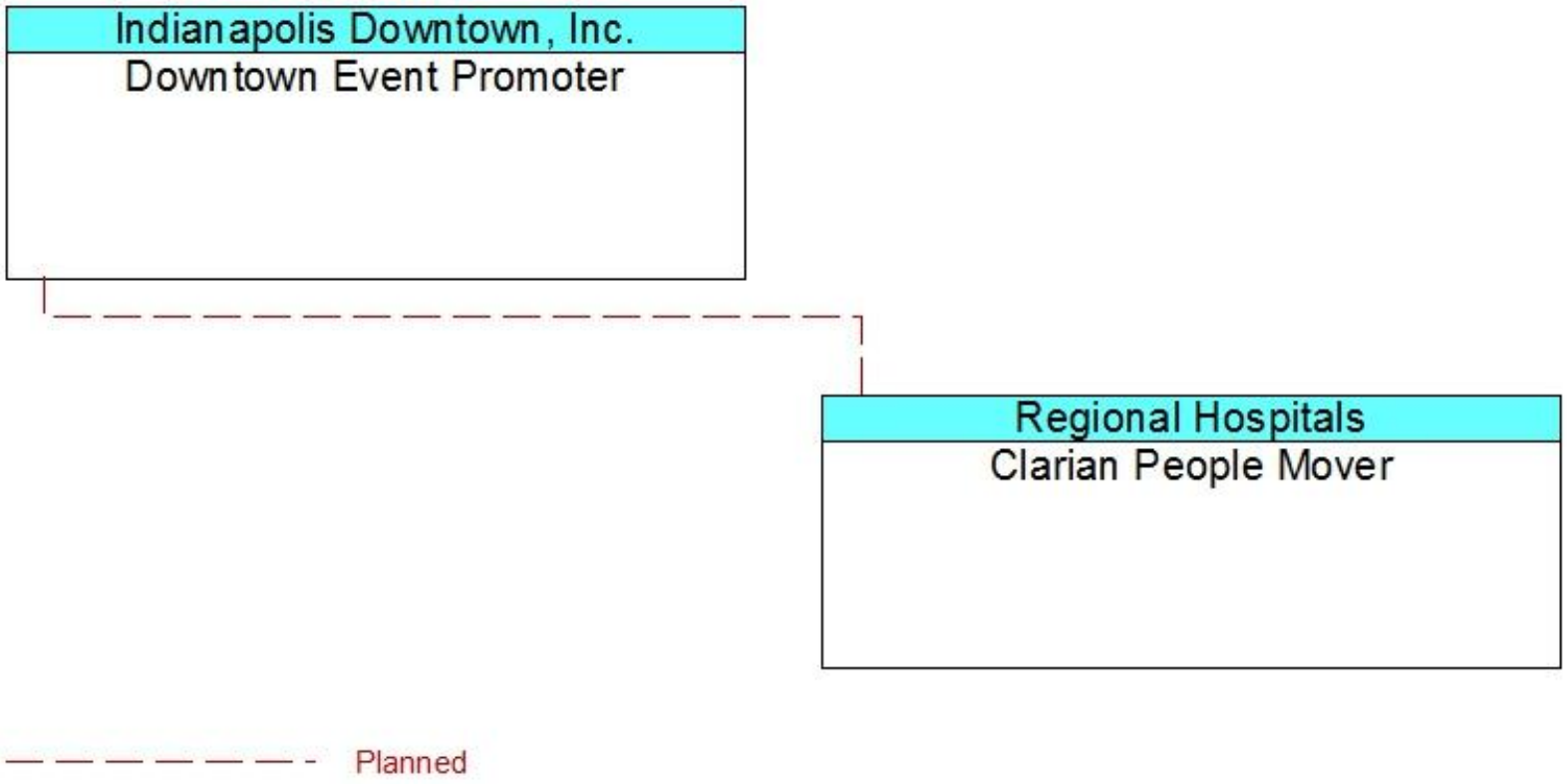
Beech Grove Public Works



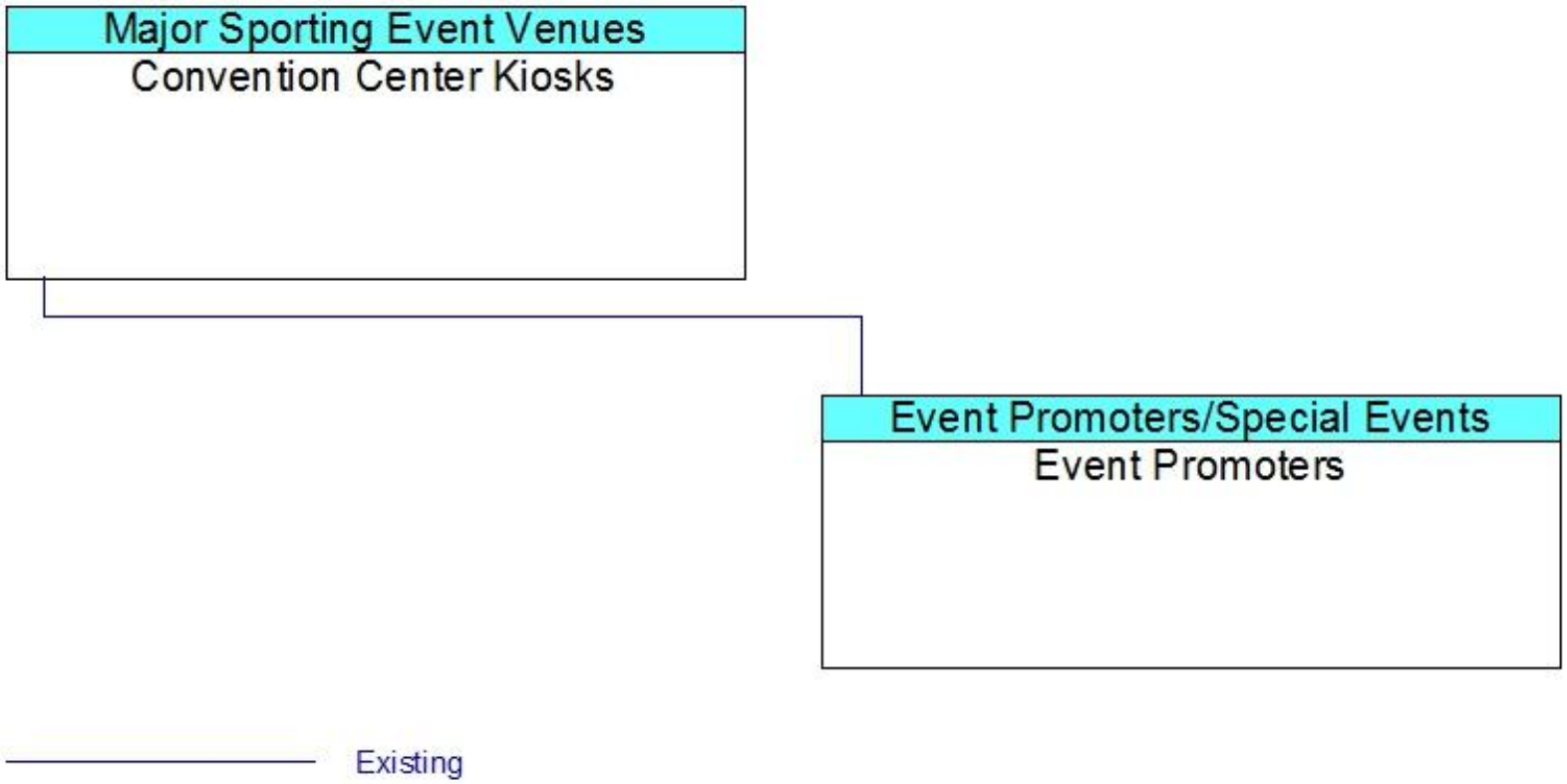
Beech Grove Vehicles



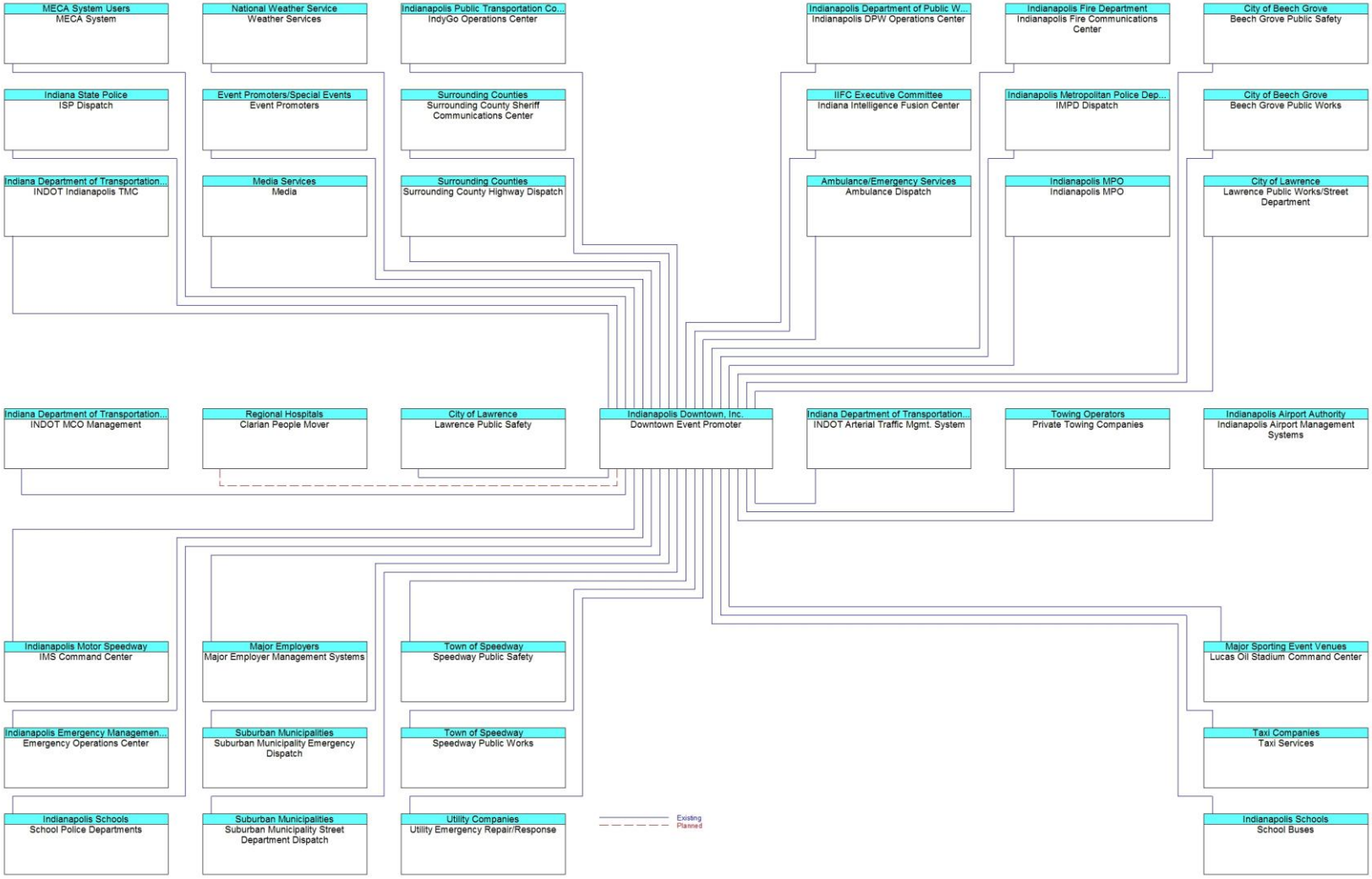
Commuter Connect Website



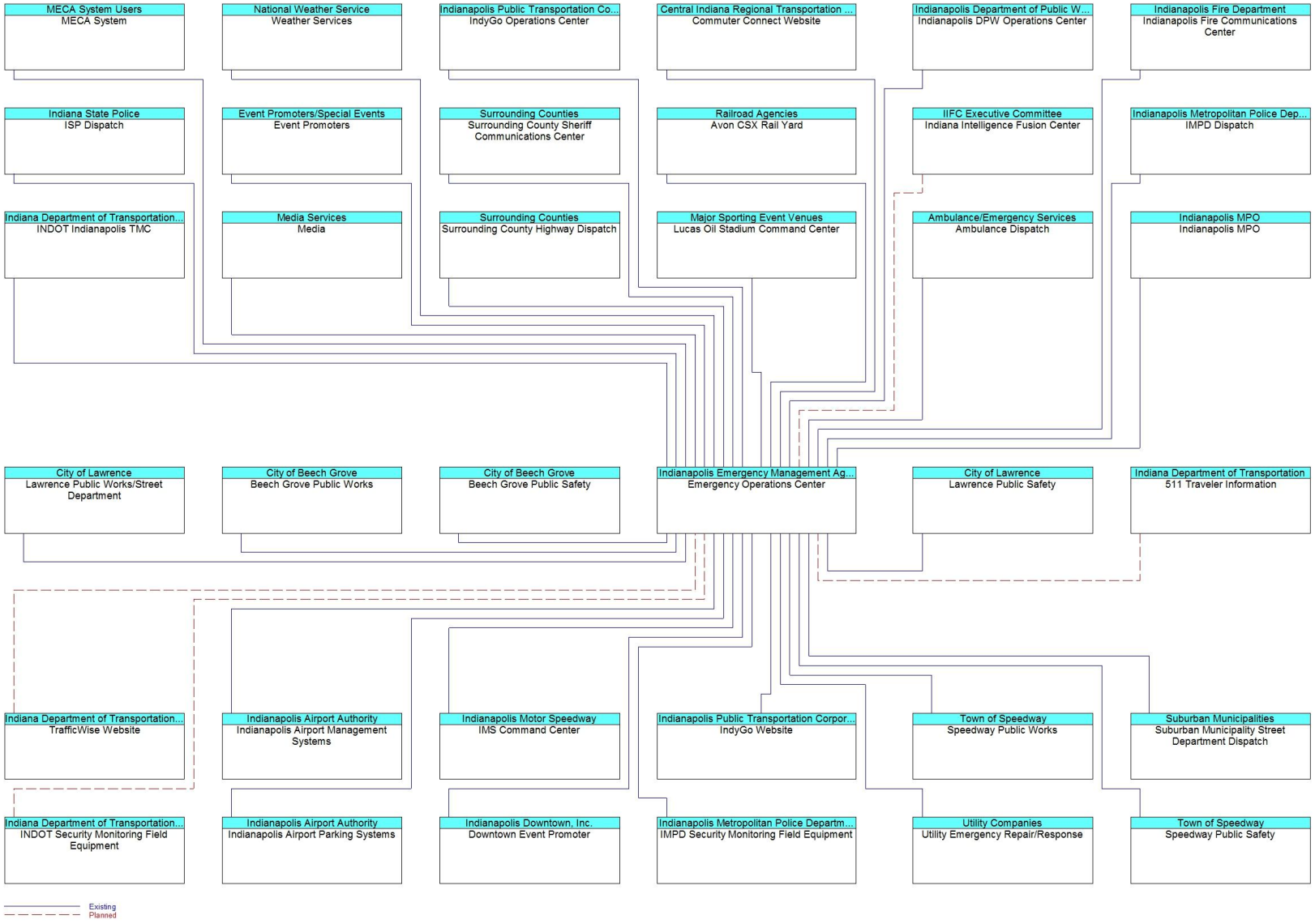
Clarian People Mover



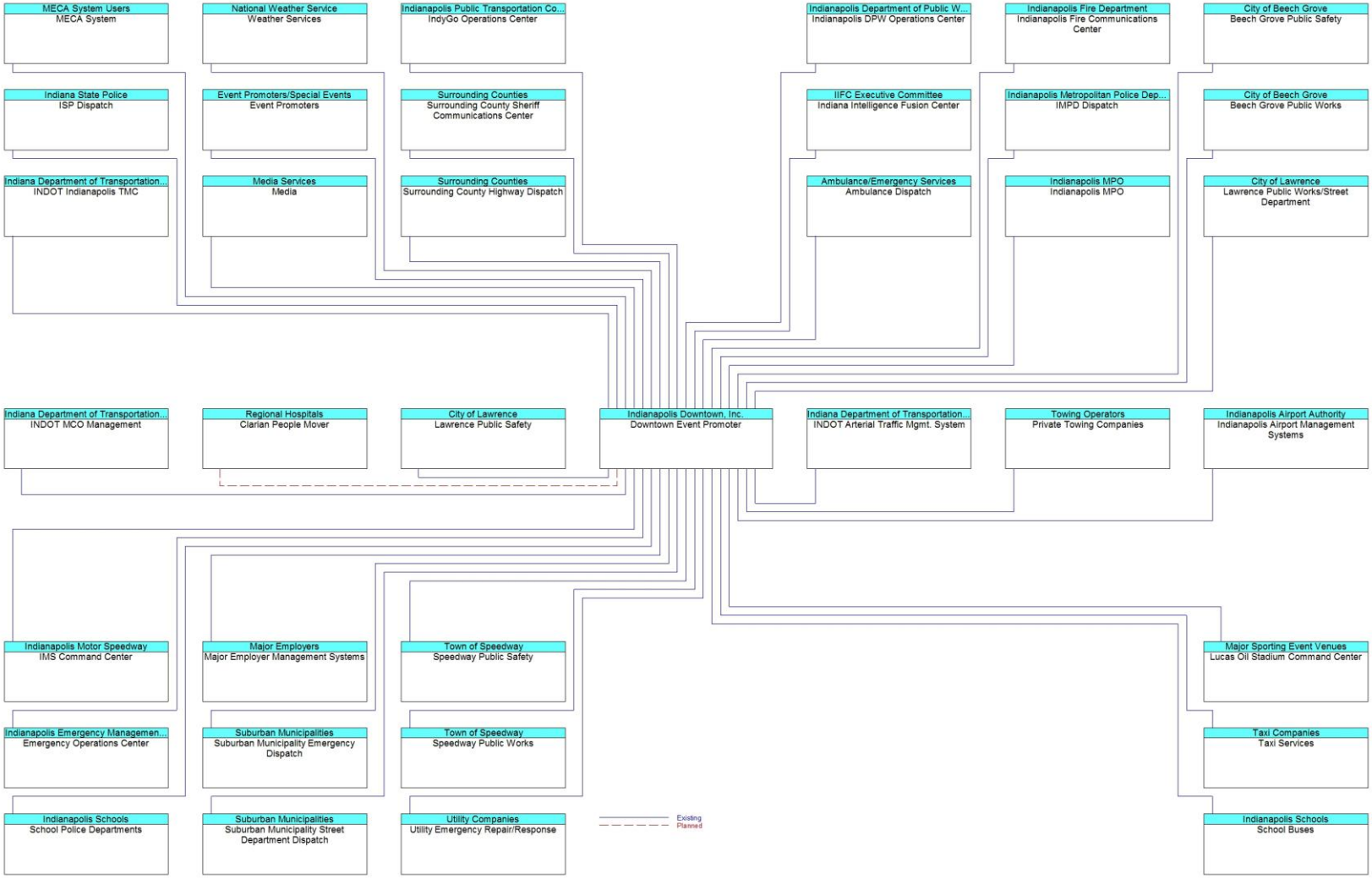
Convention Center Kiosks



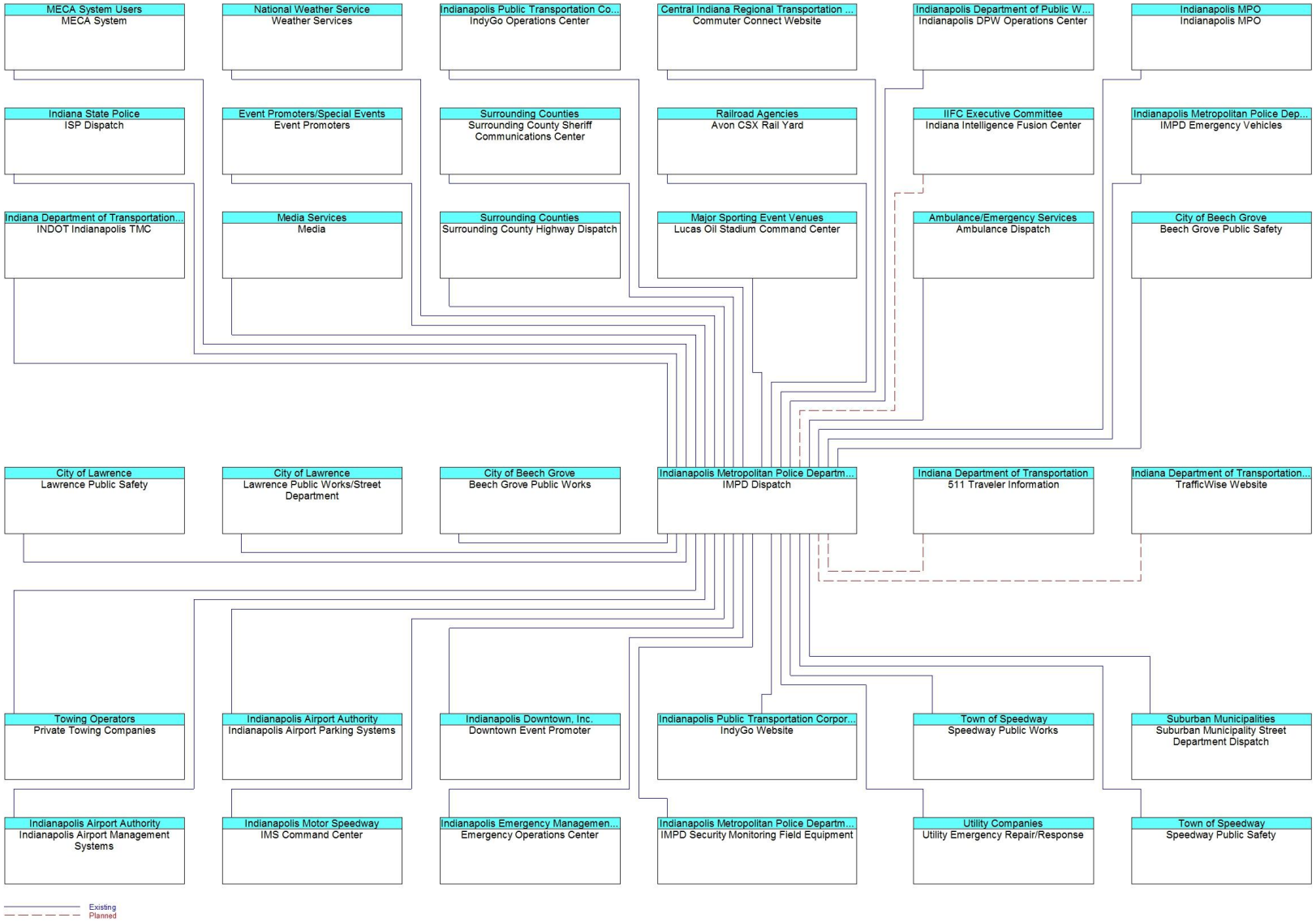
Downtown Event Promoter



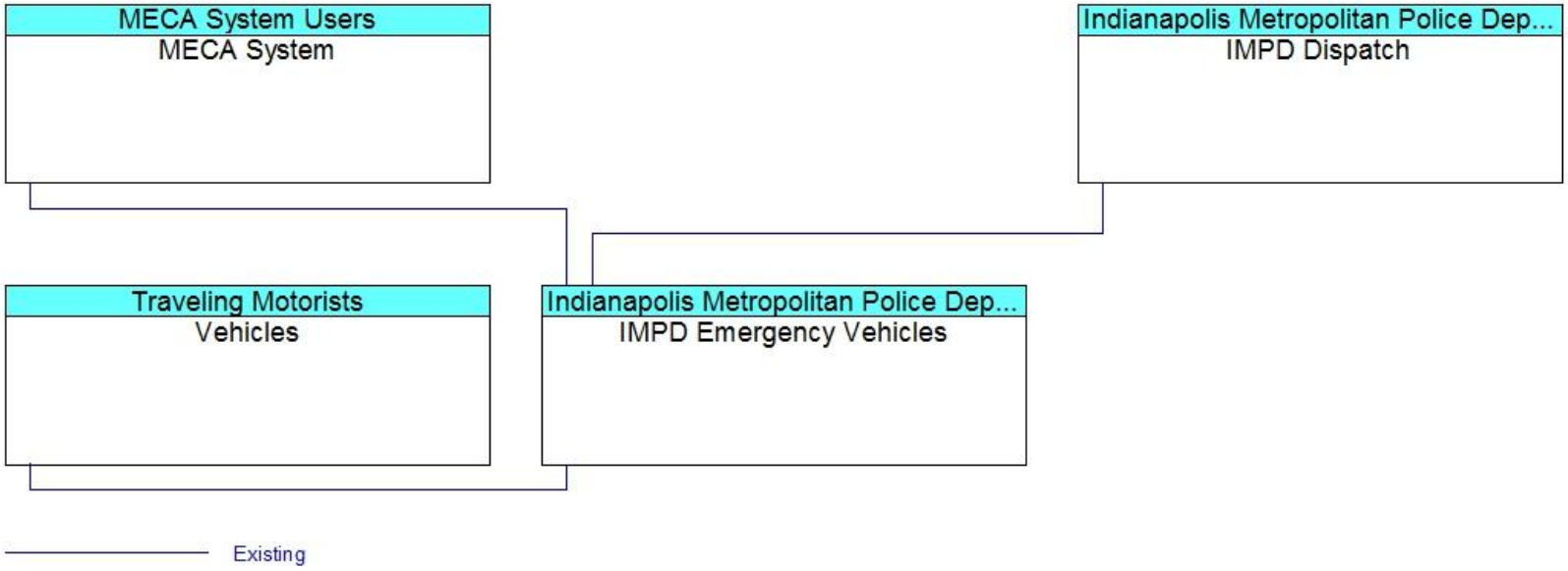
Emergency Operations Center



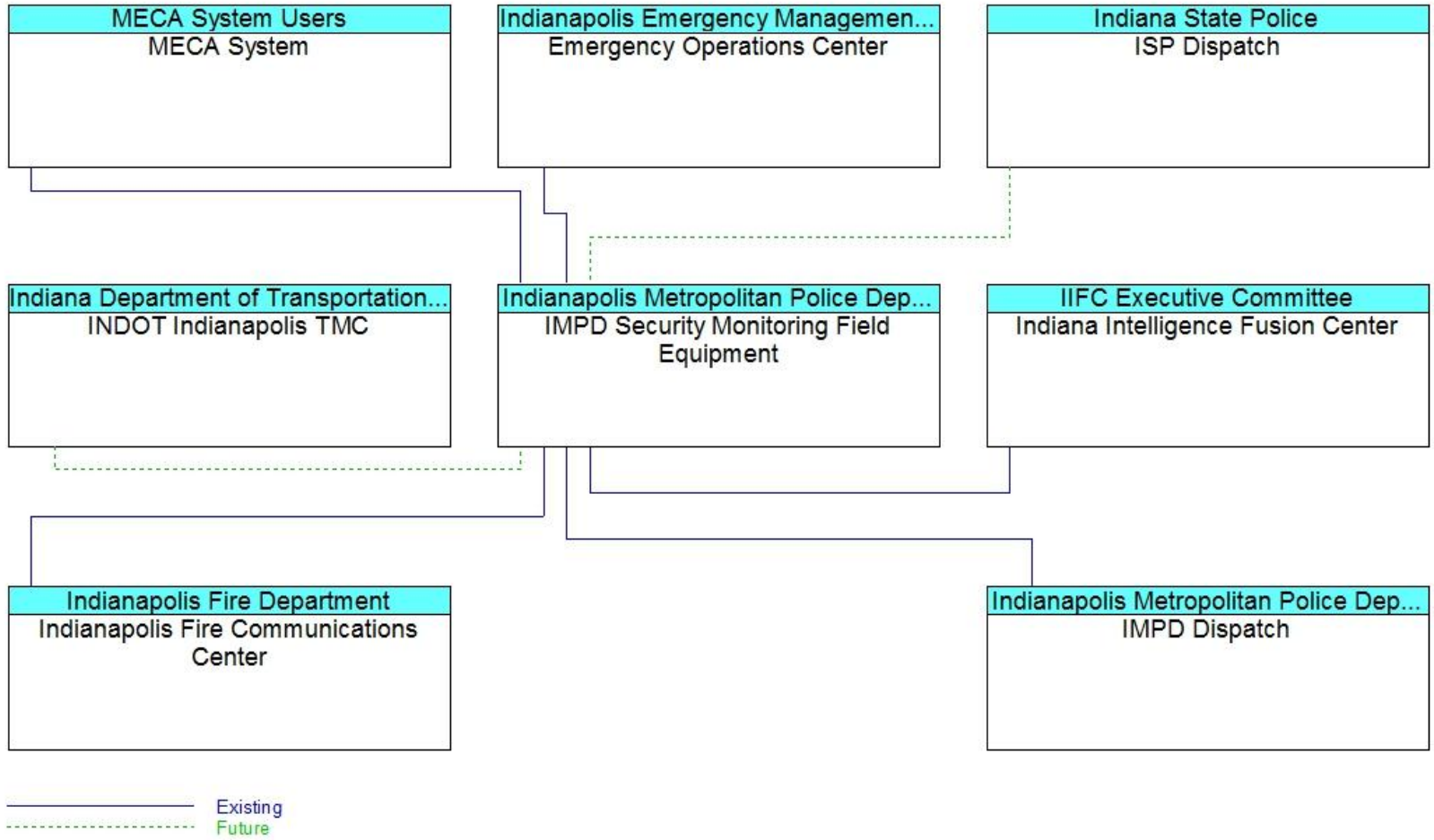
Event Promoters



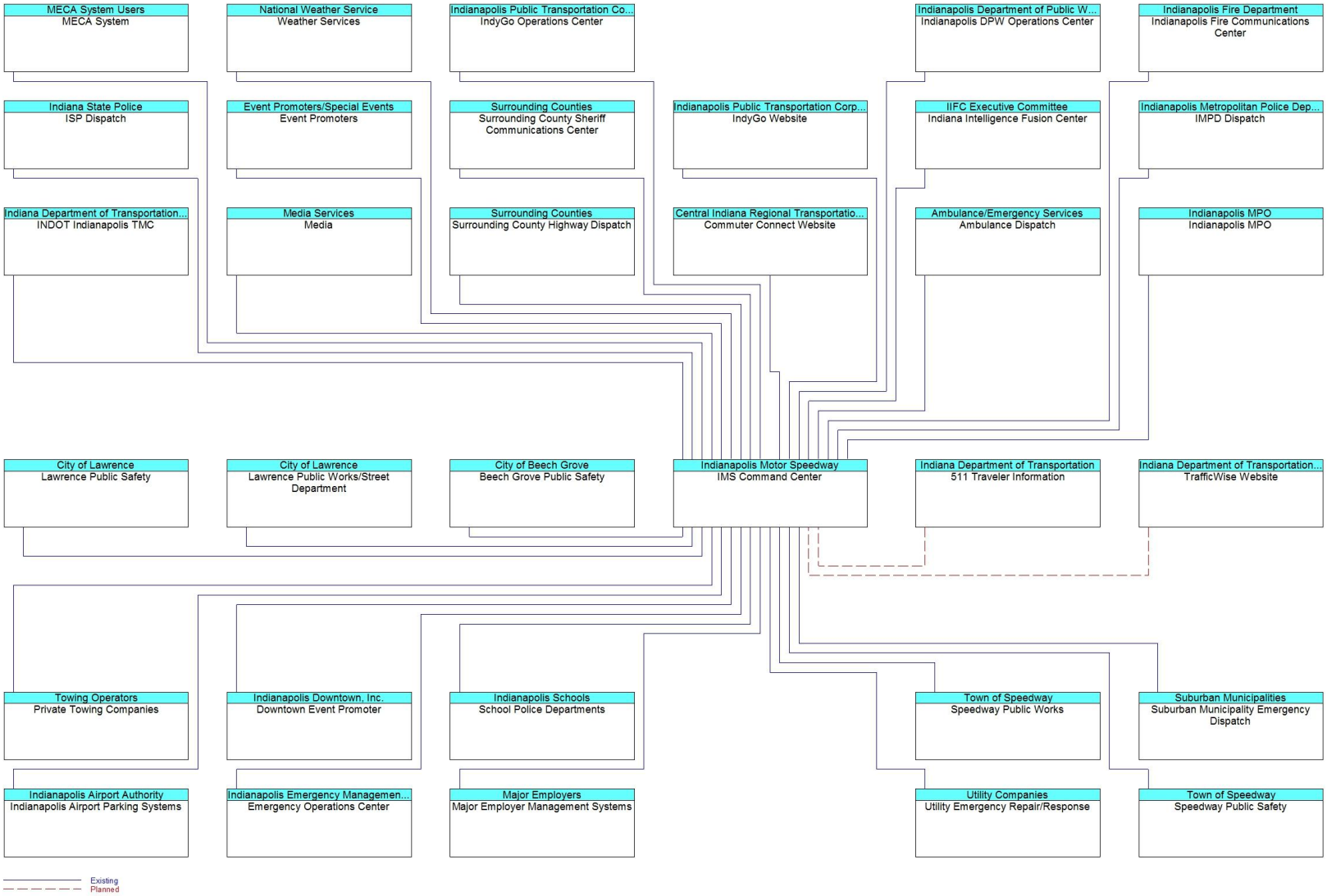
IMPD Dispatch



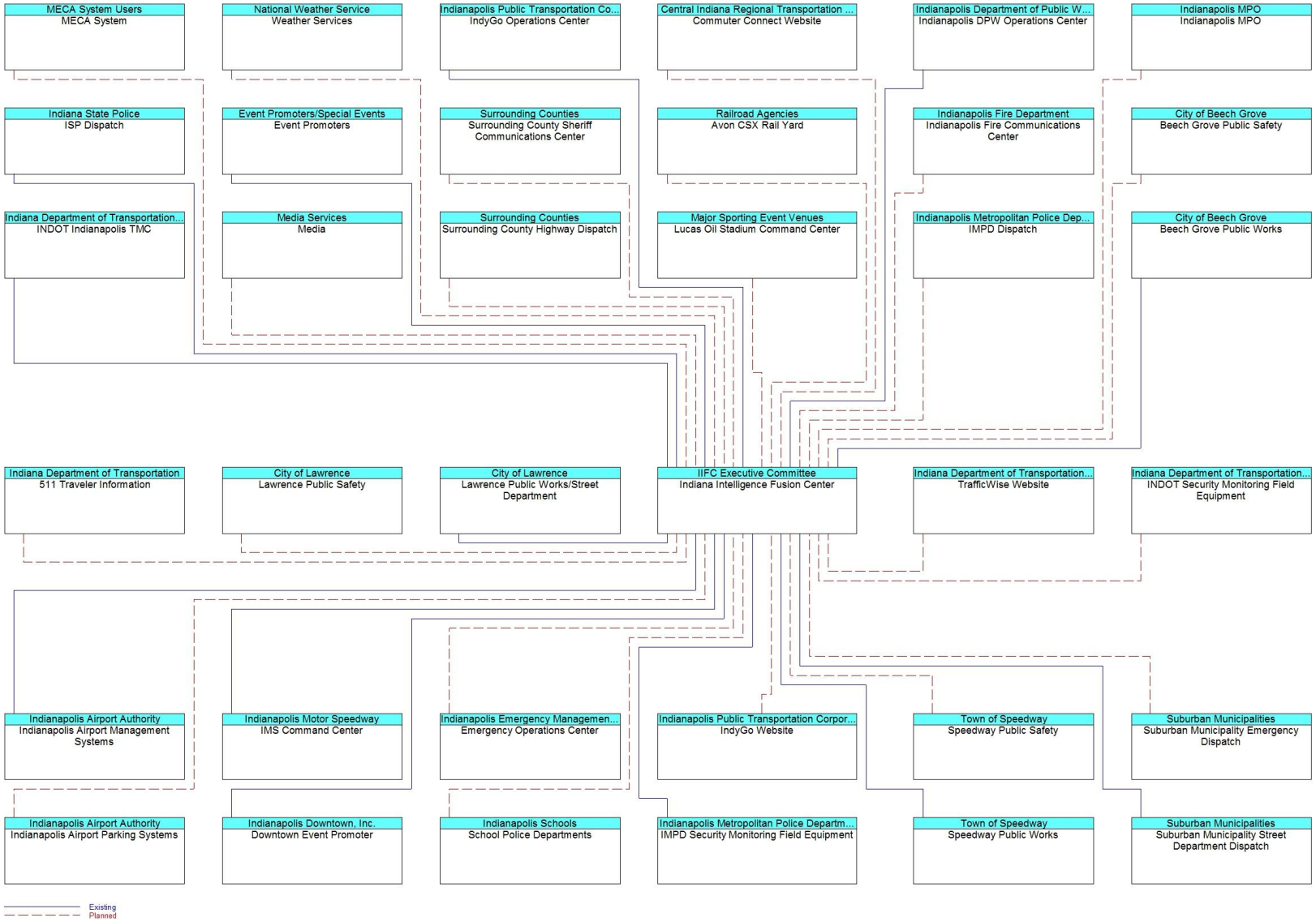
IMPD Emergency Vehicles



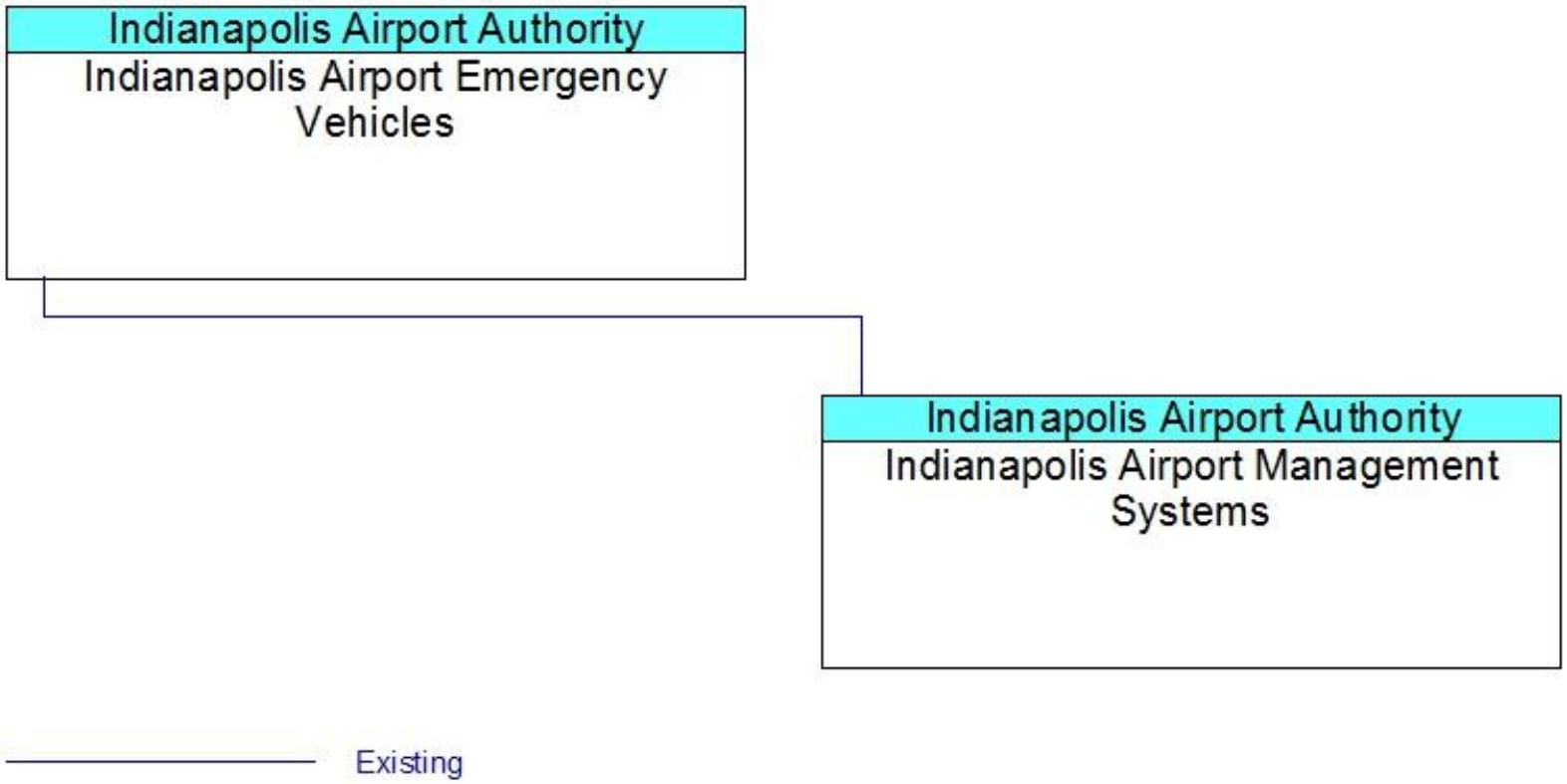
IMPD Security Monitoring Field Equipment



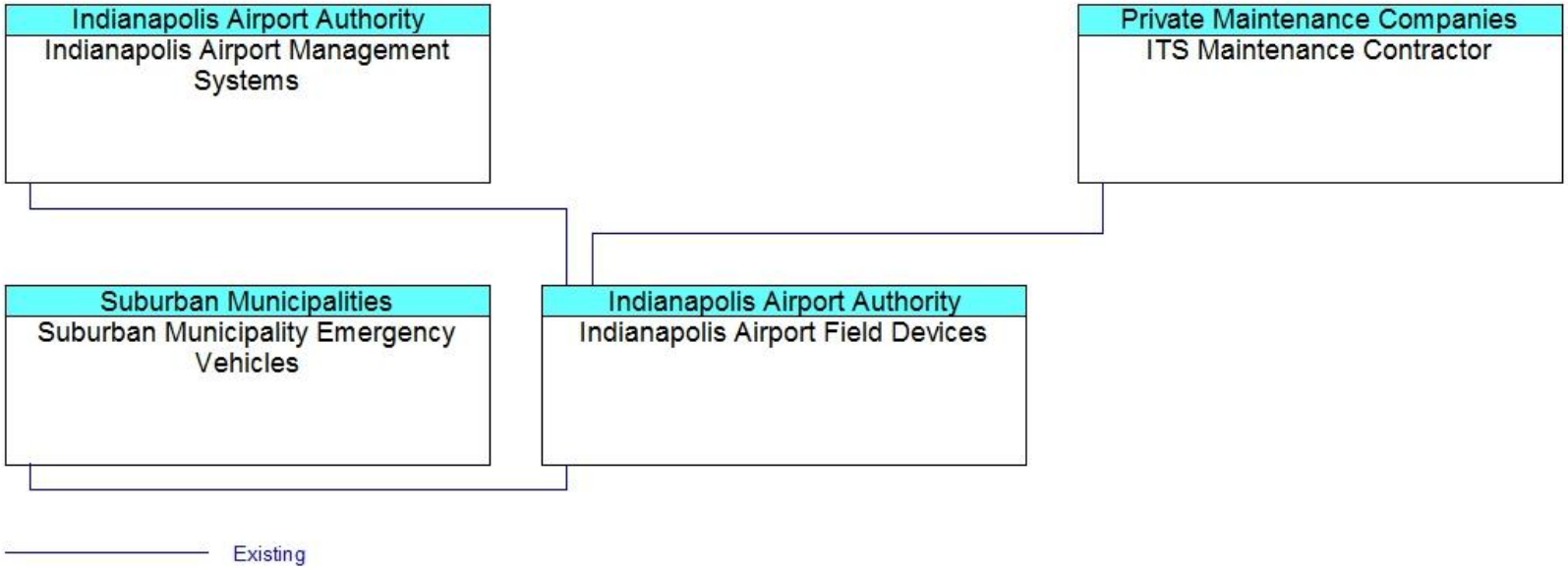
IMS Command Center



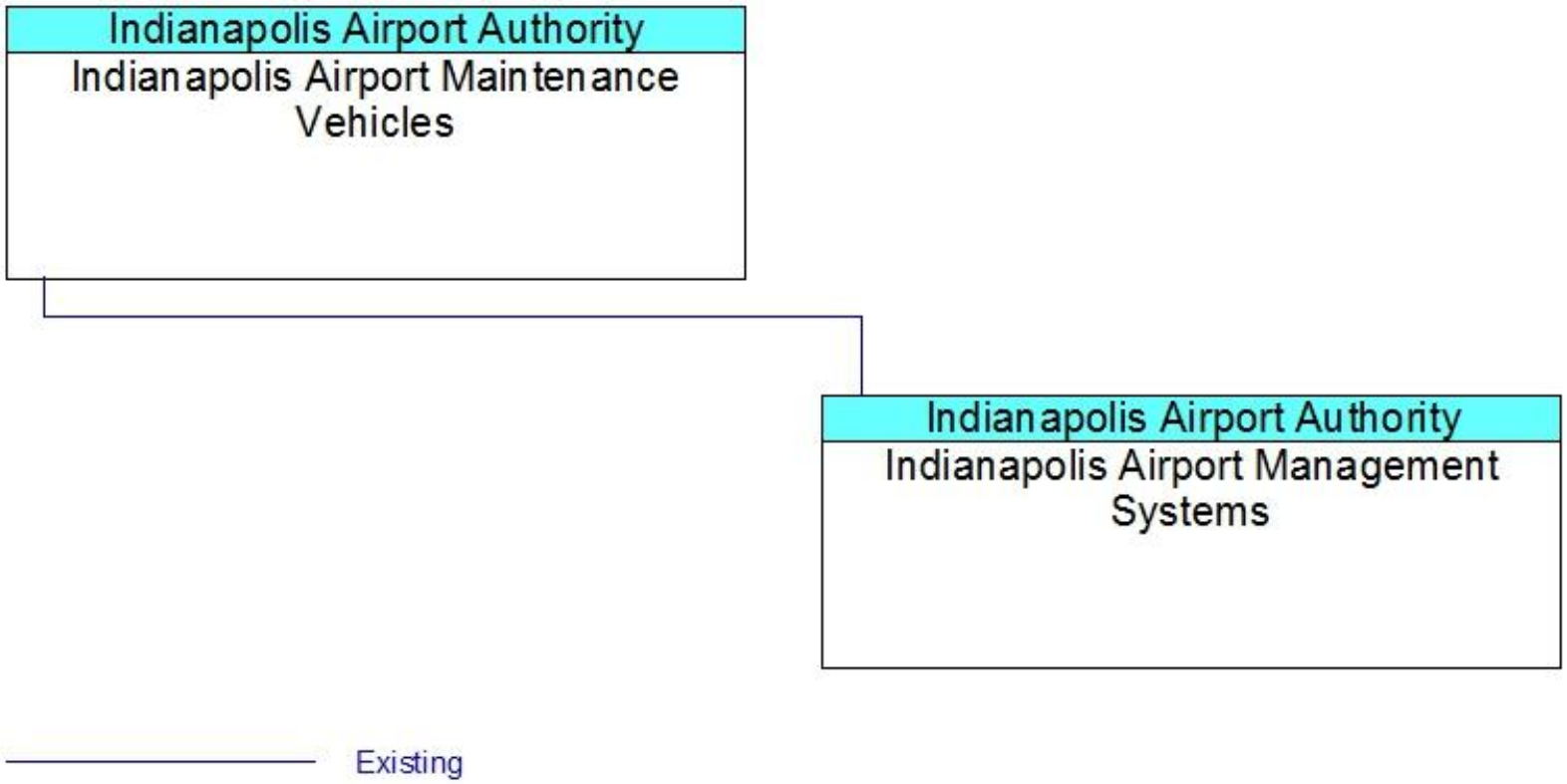
Indiana Intelligence Fusion Center



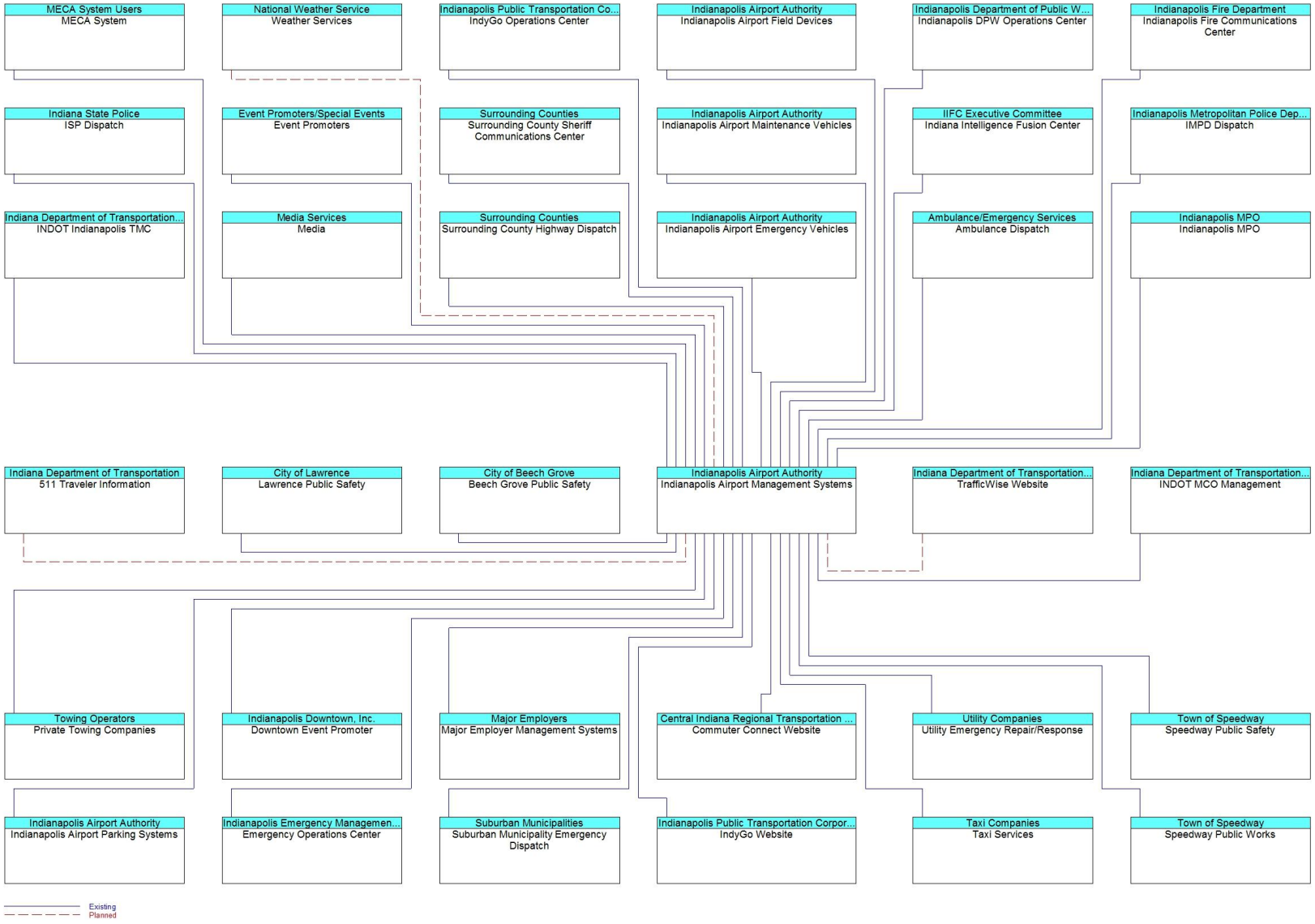
Indianapolis Airport Emergency Vehicles



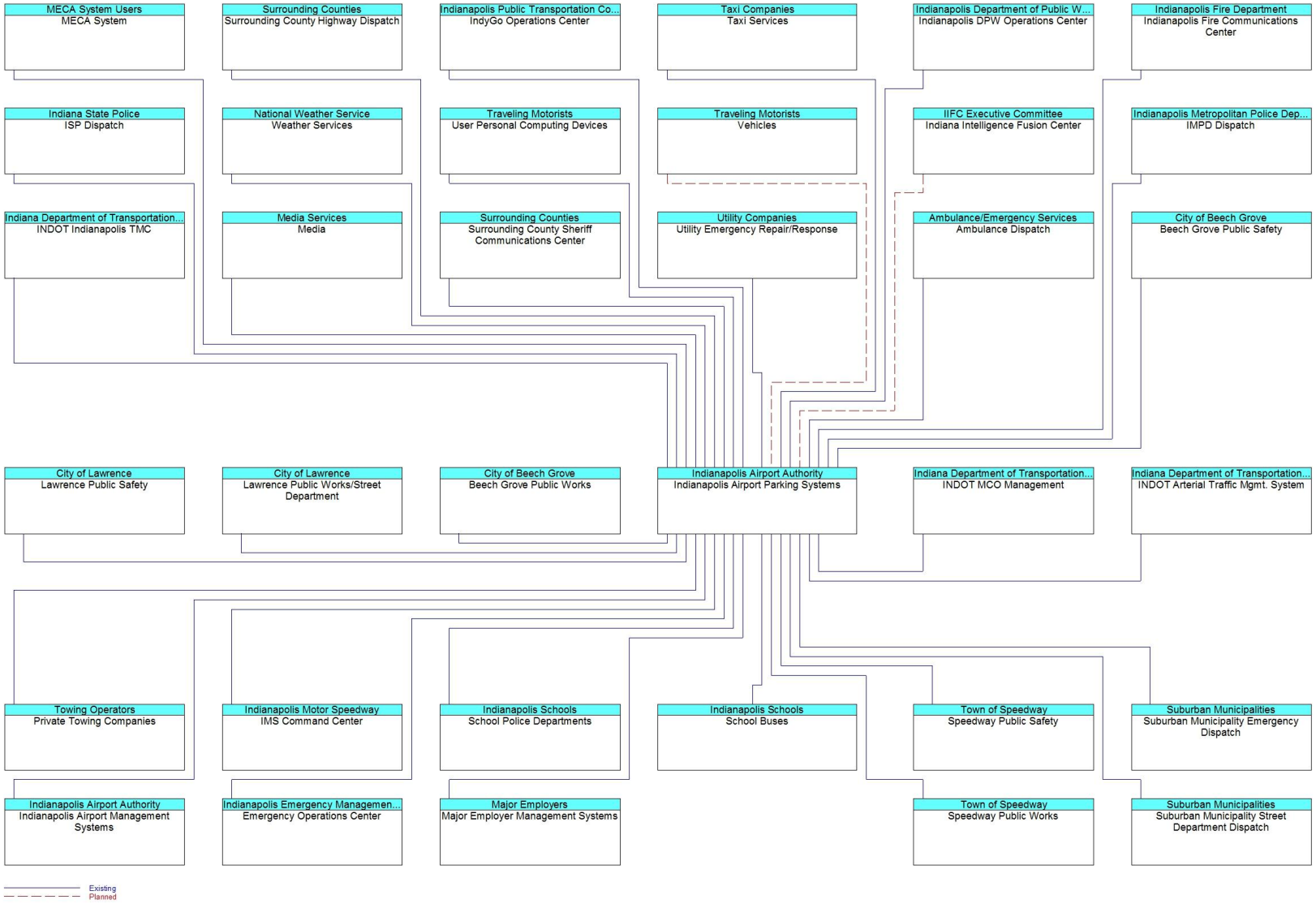
Indianapolis Airport Field Devices



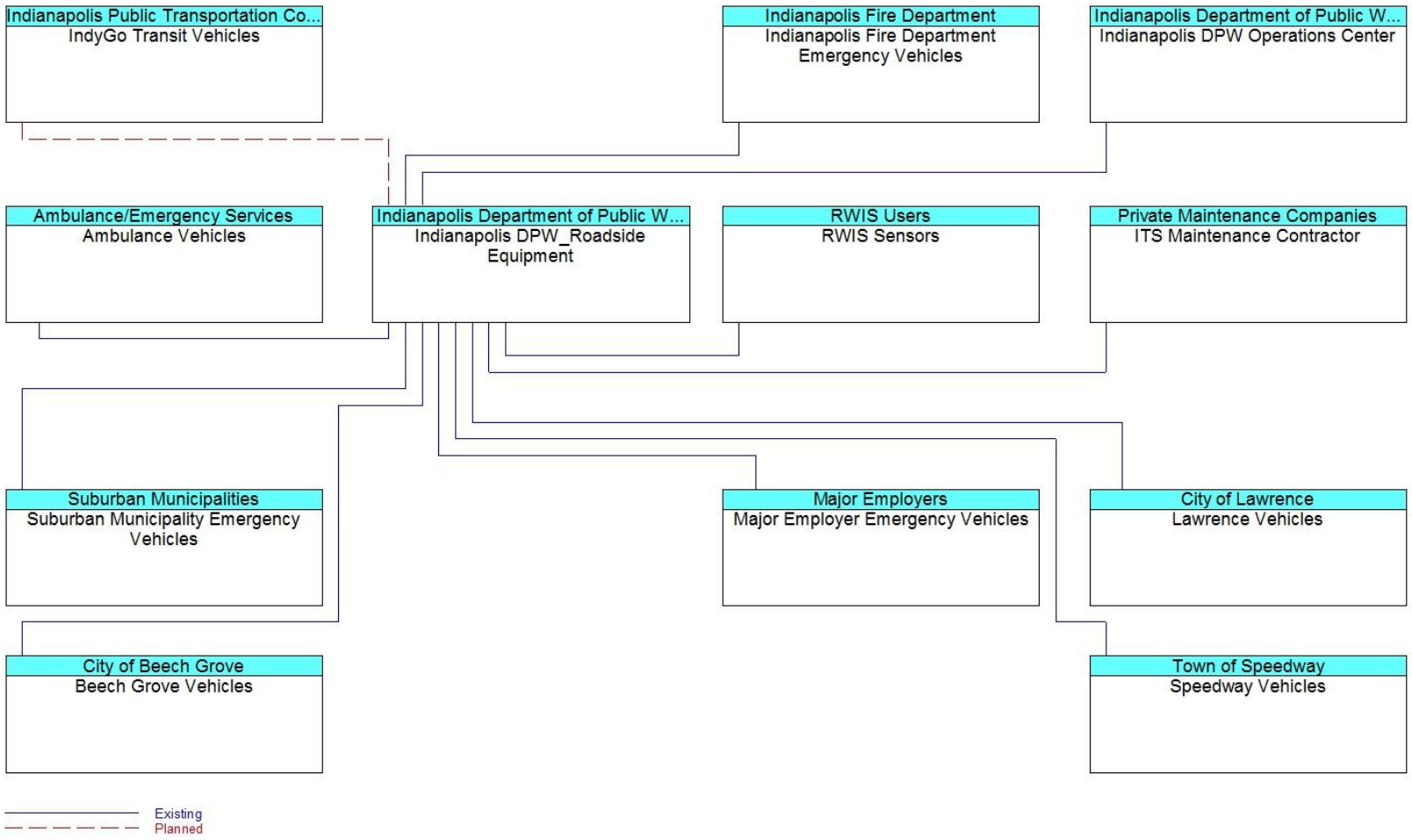
Indianapolis Airport Maintenance Vehicles



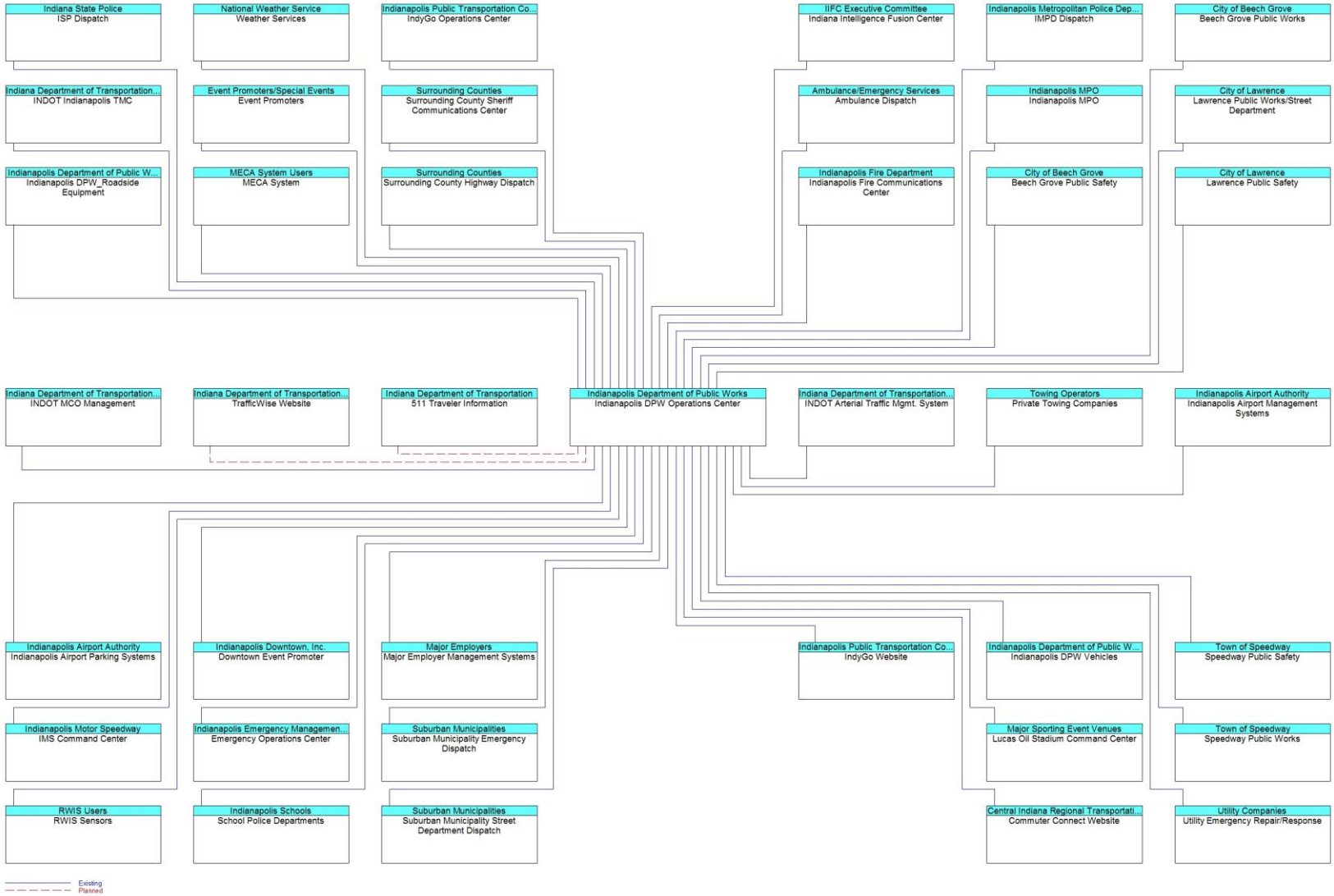
Indianapolis Airport Management Systems



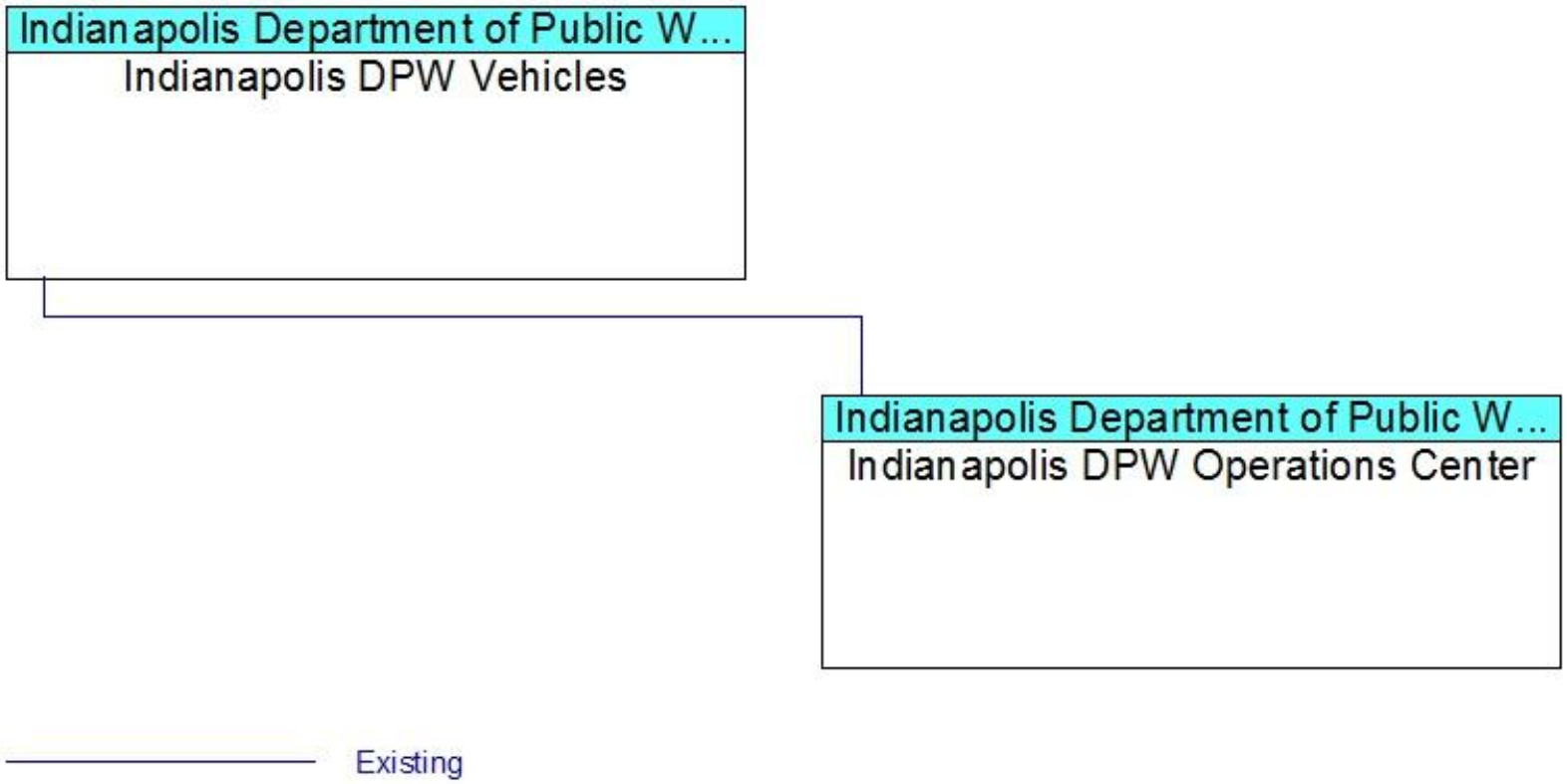
Indianapolis Airport Parking Systems



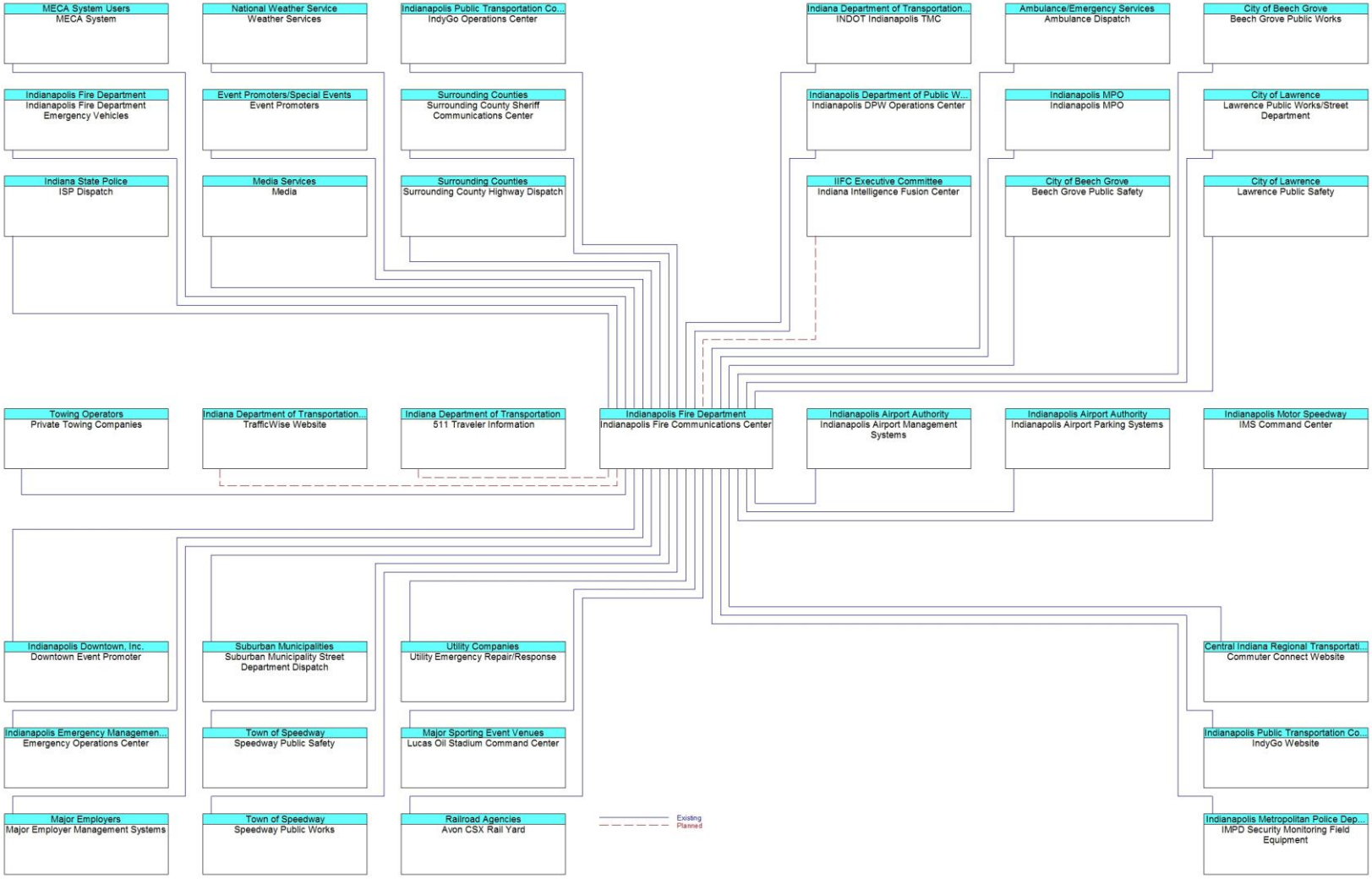
Indianapolis DPW Roadside Equipment



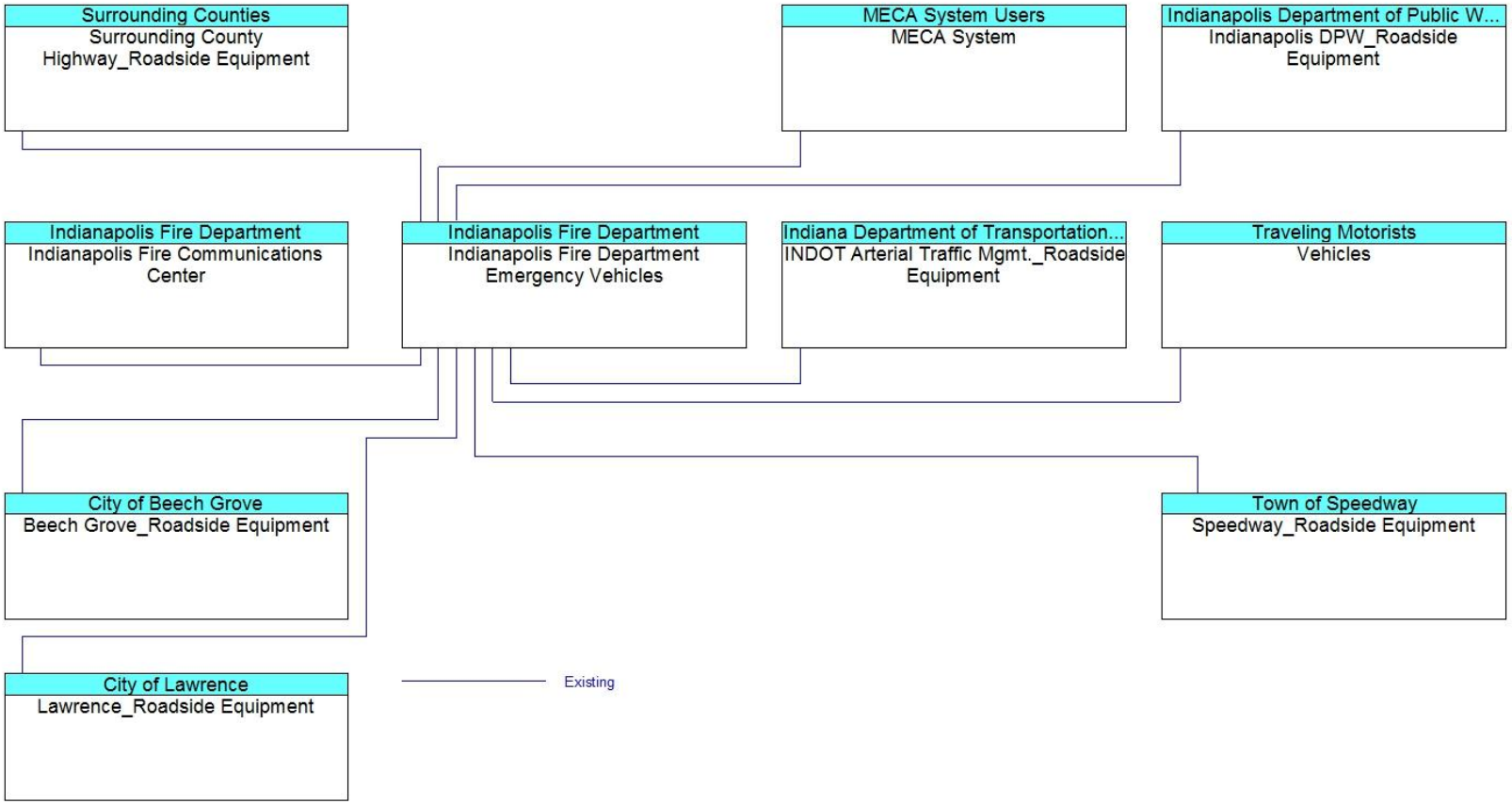
Indianapolis DPW Operations Center



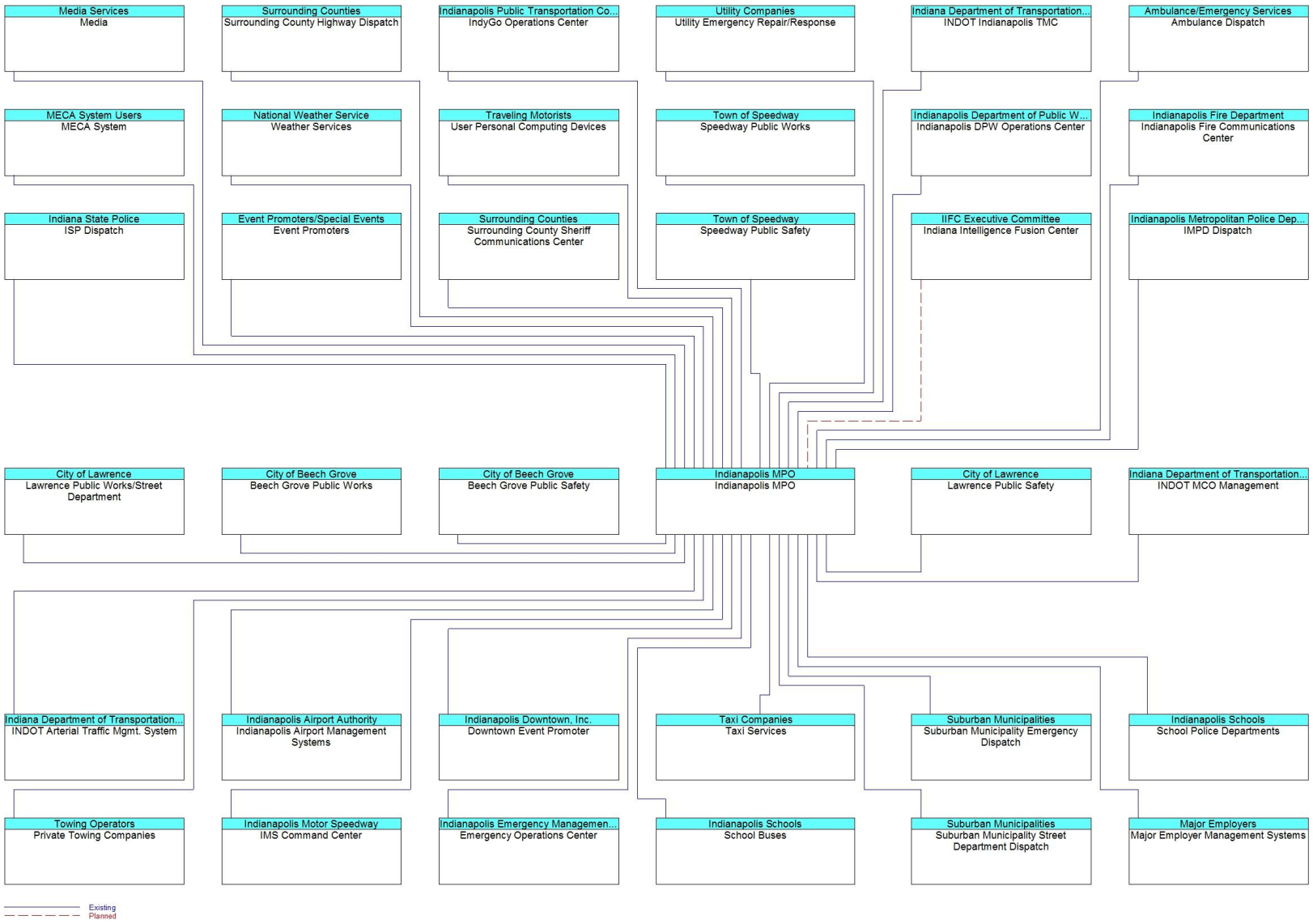
Indianapolis DPW Vehicles



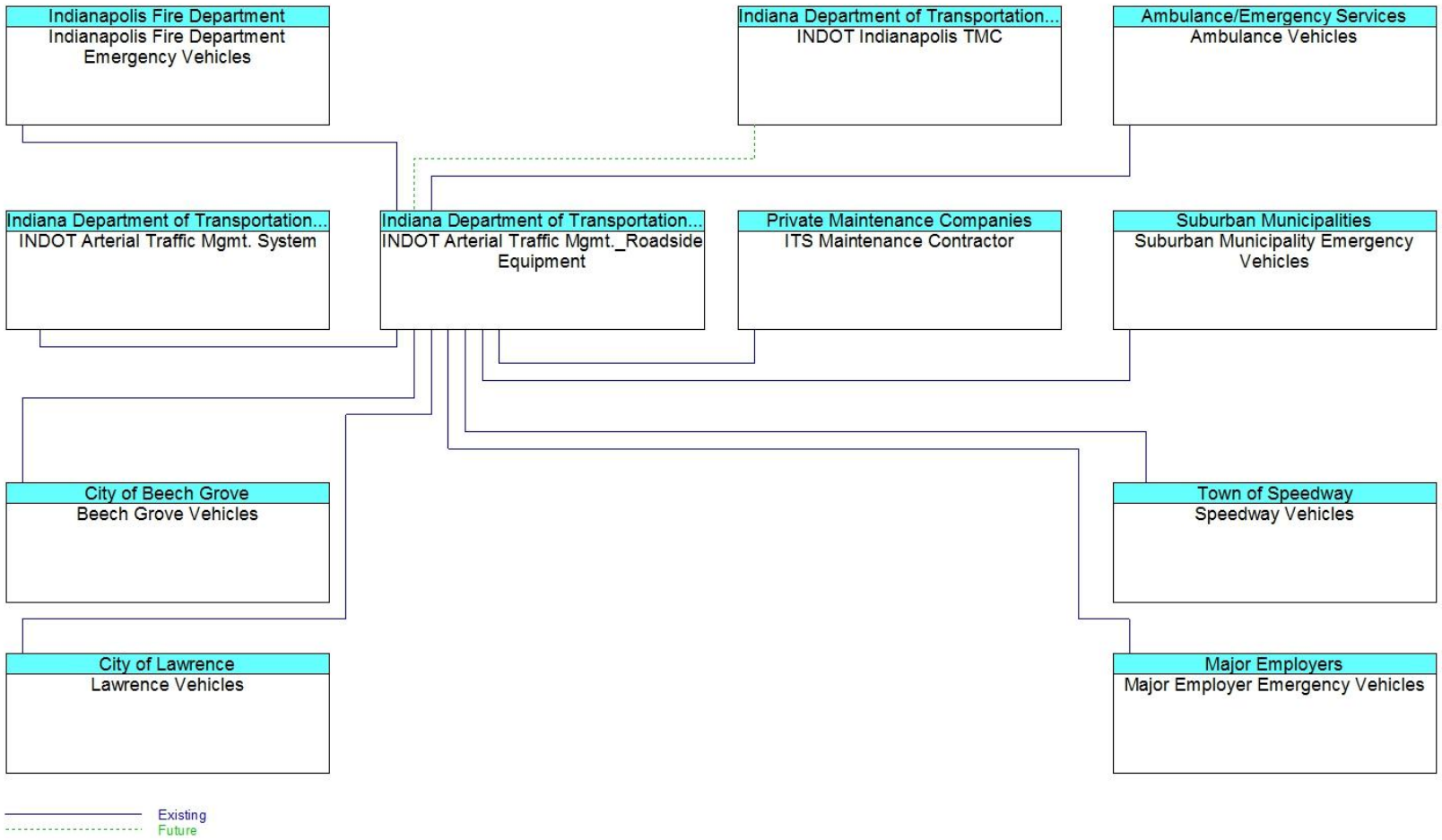
Indianapolis Fire Communications Center



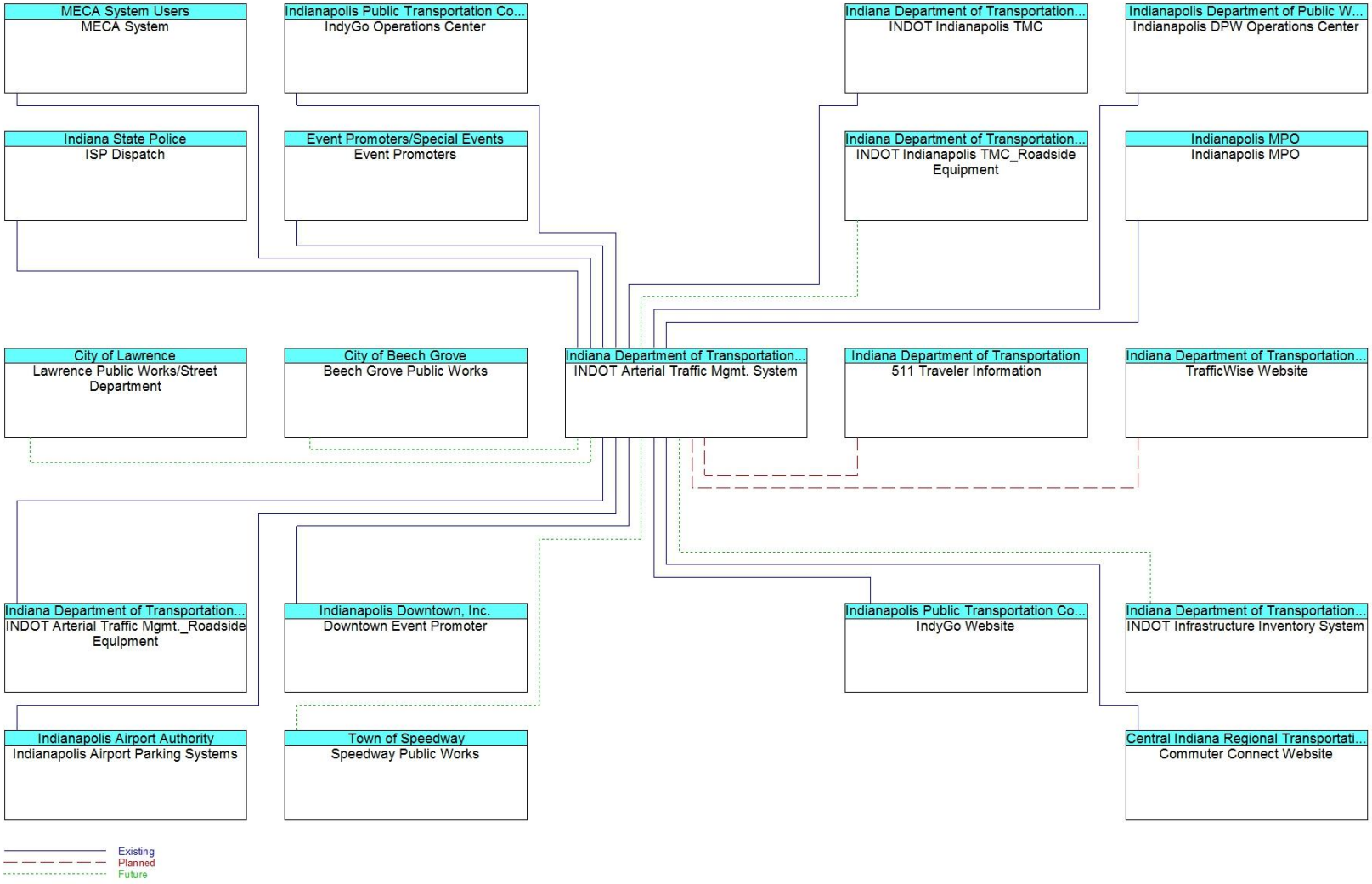
Indianapolis Fire Department Emergency Vehicles



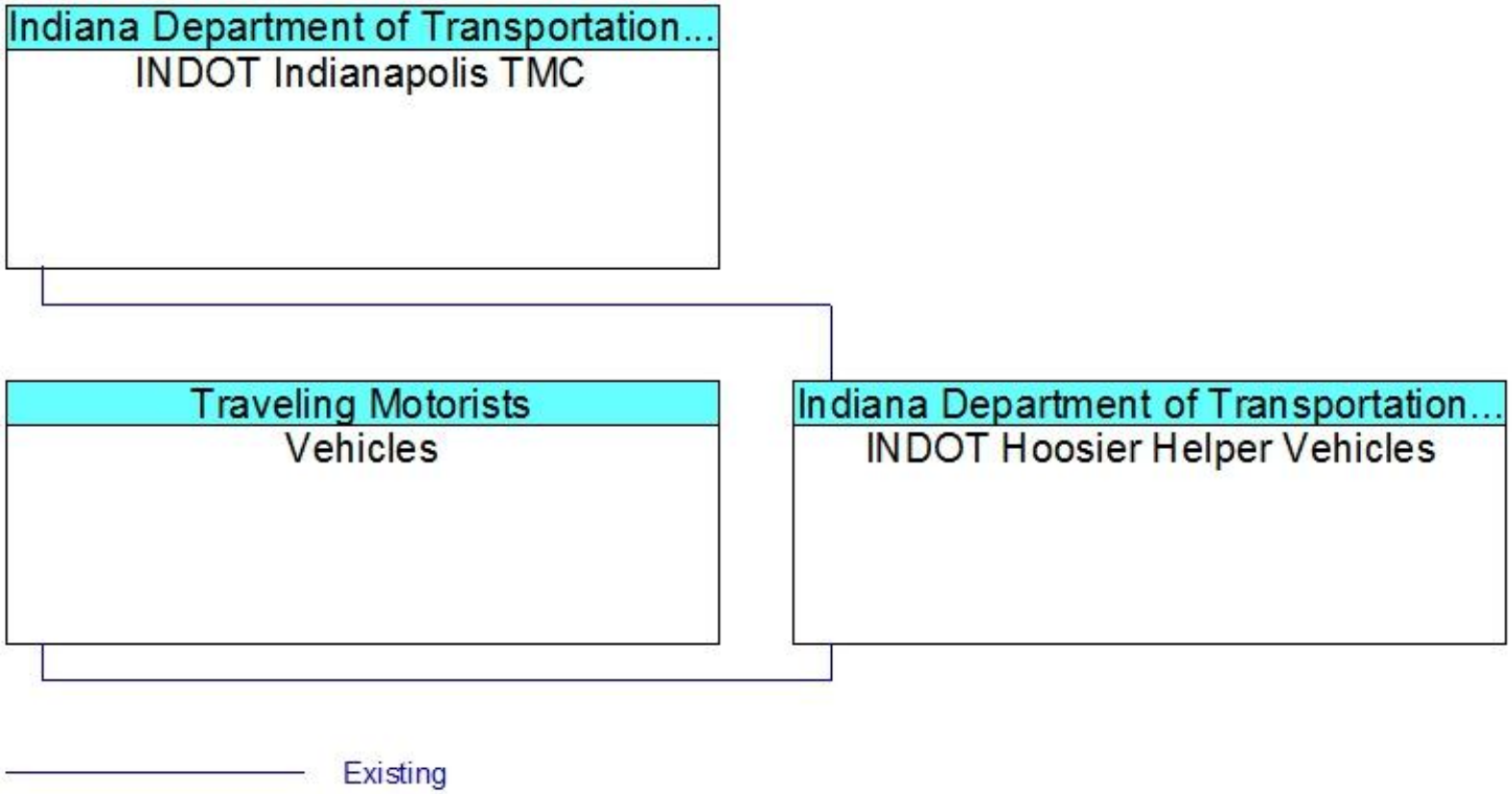
Indianapolis MPO



INDOT Arterial Traffic Management Roadside Equipment

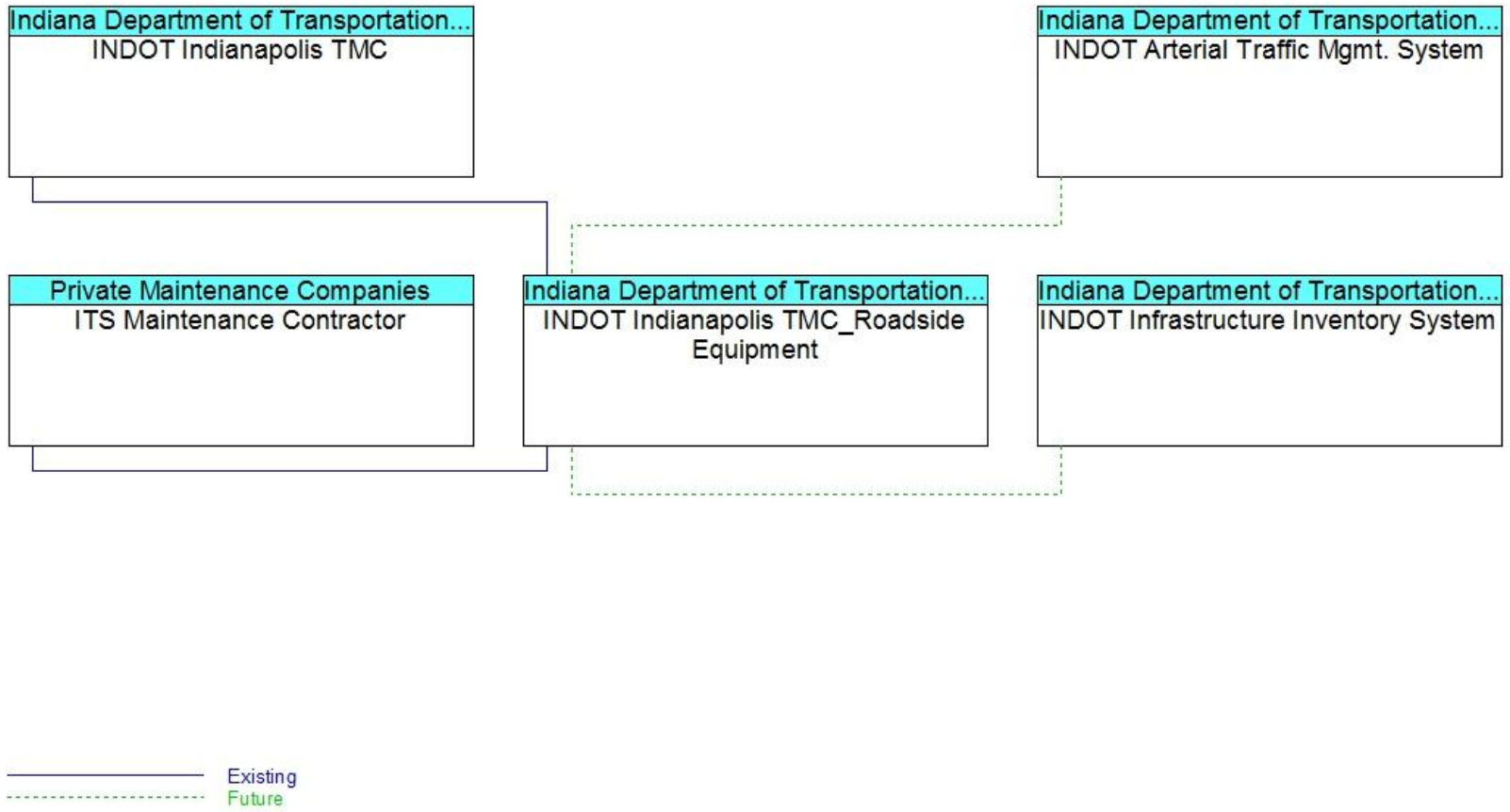


INDOT Arterial Traffic Management System

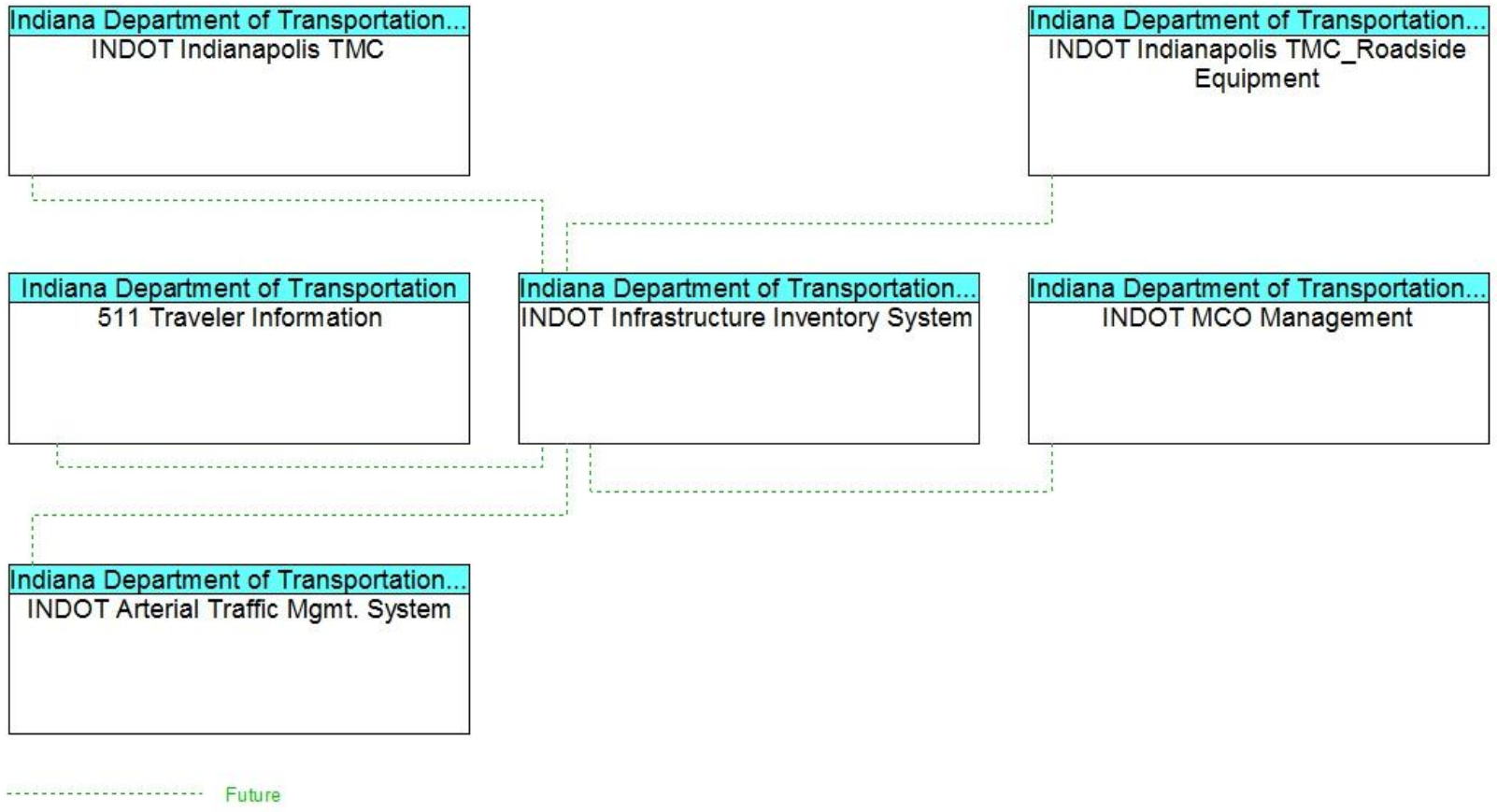


INDOT Hoosier Helper Vehicles

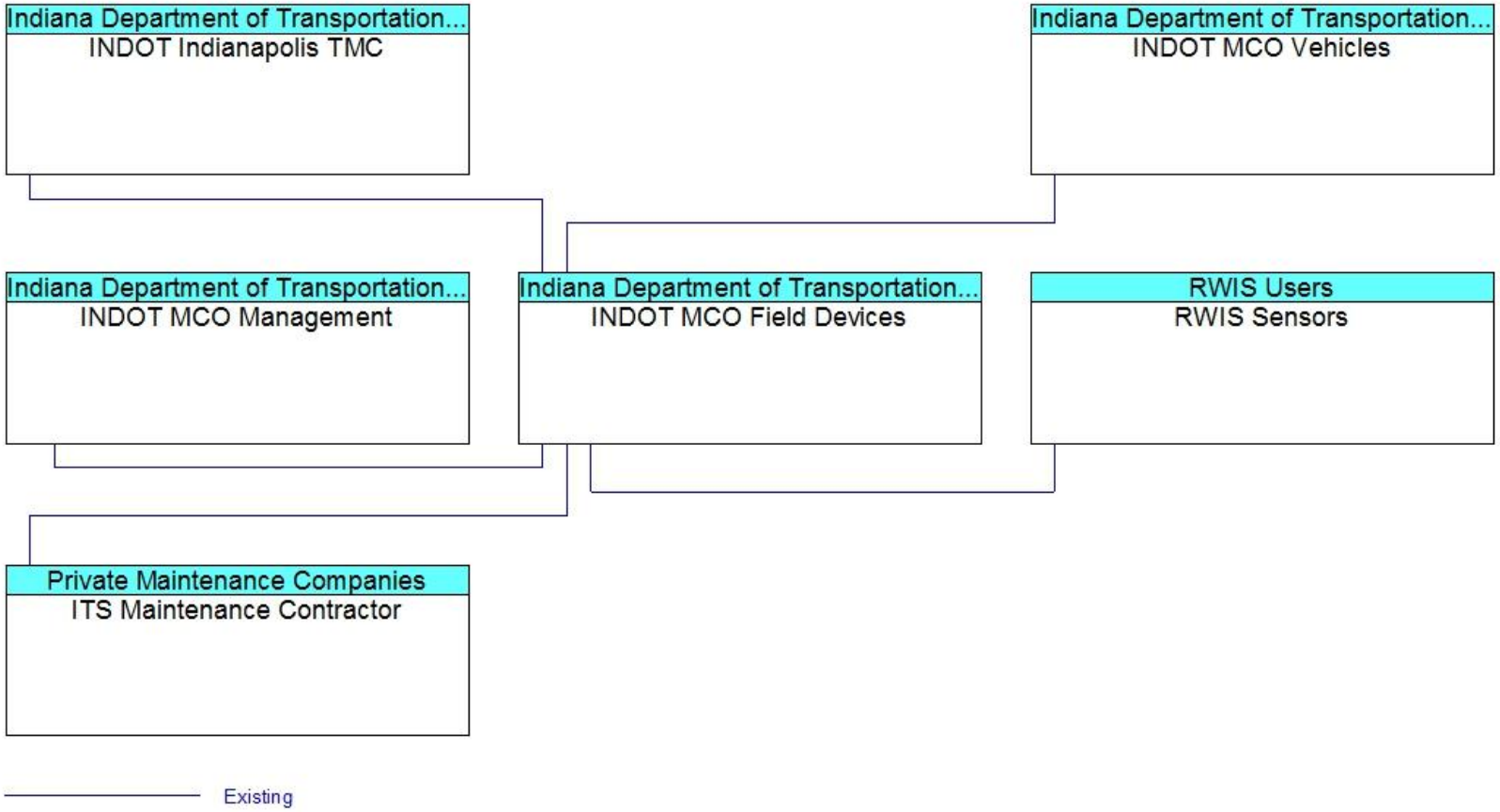
INDOT Indianapolis TMC



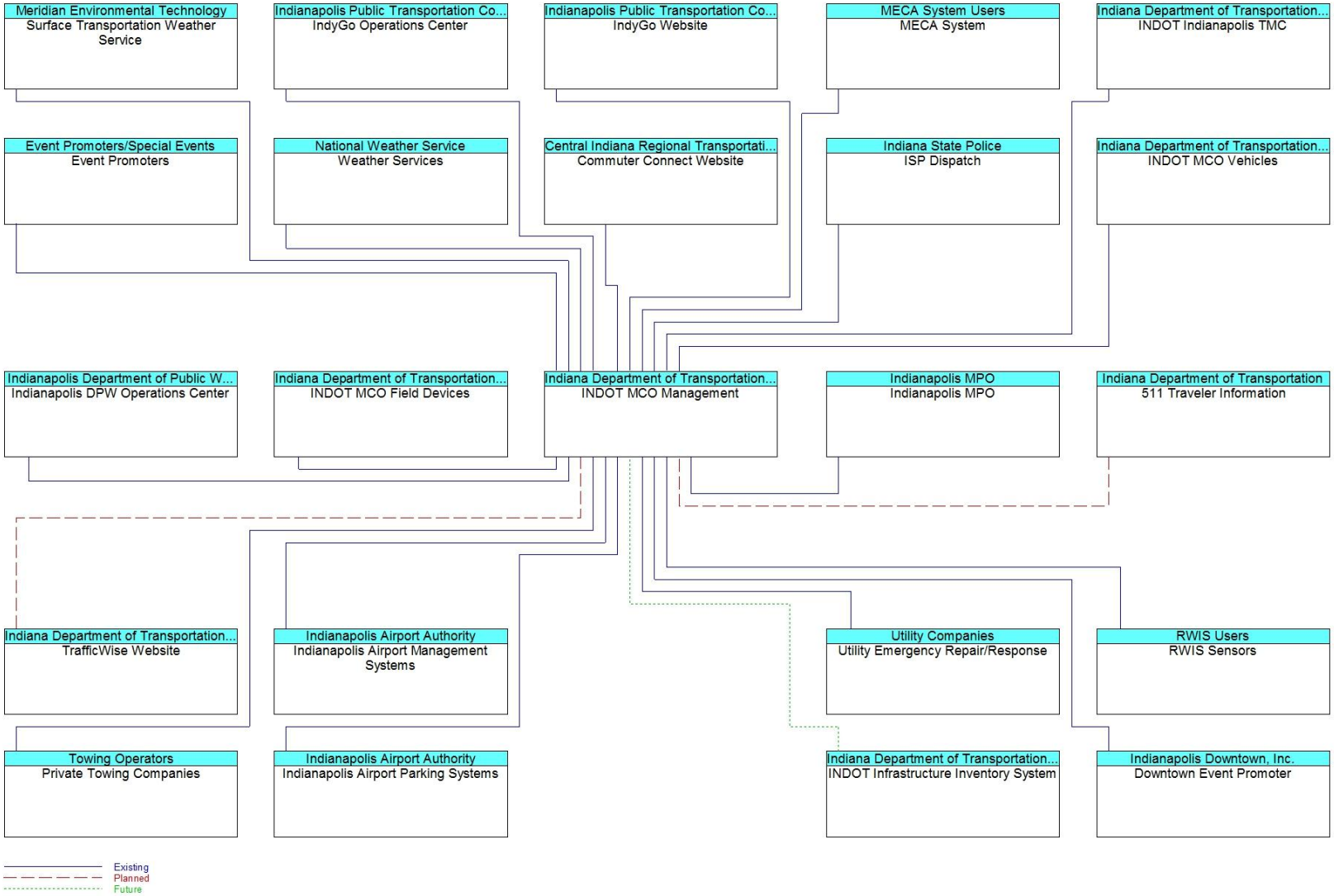
INDOT Indianapolis TMC Roadside Equipment



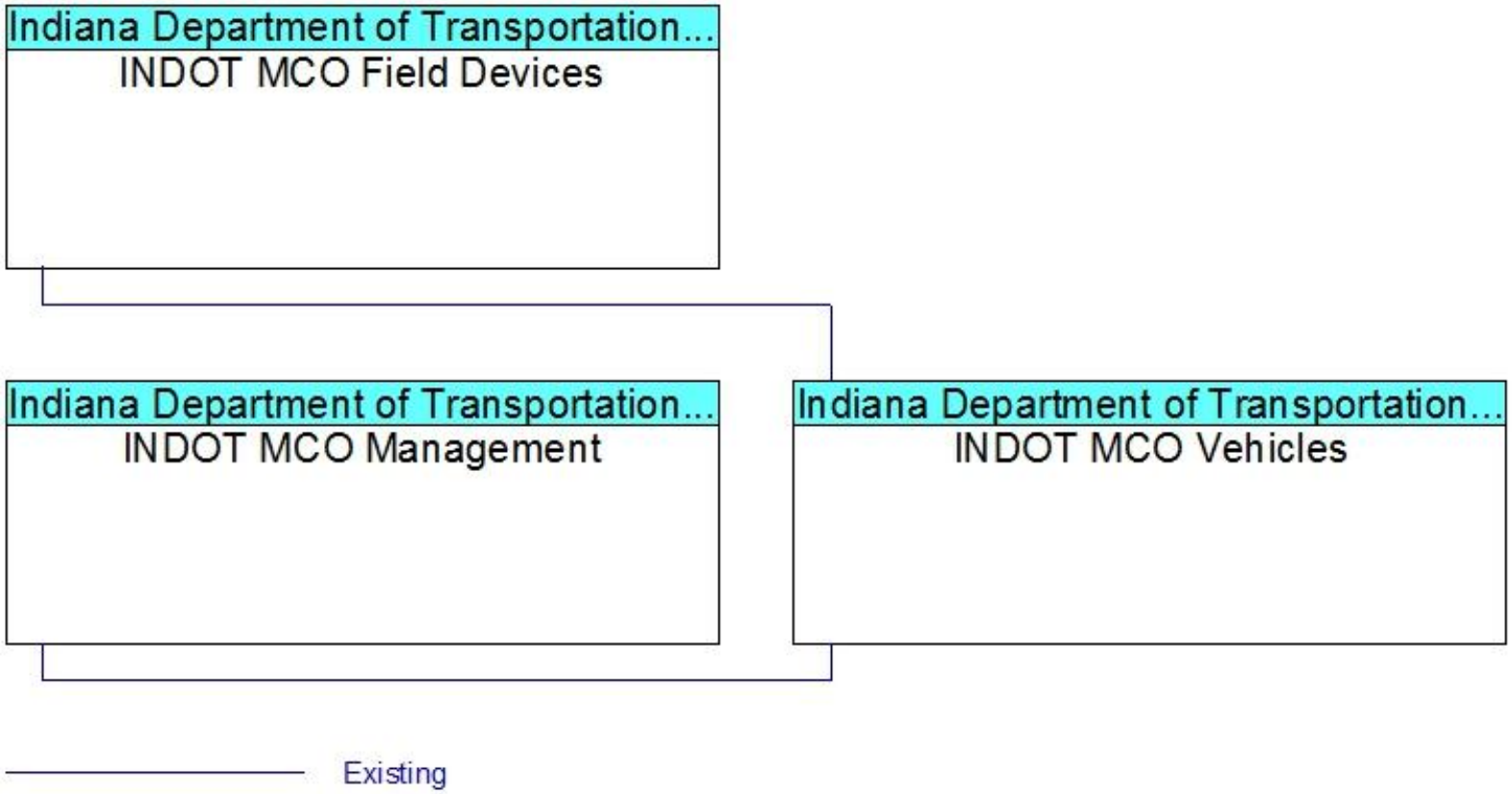
INDOT Infrastructure Inventory System



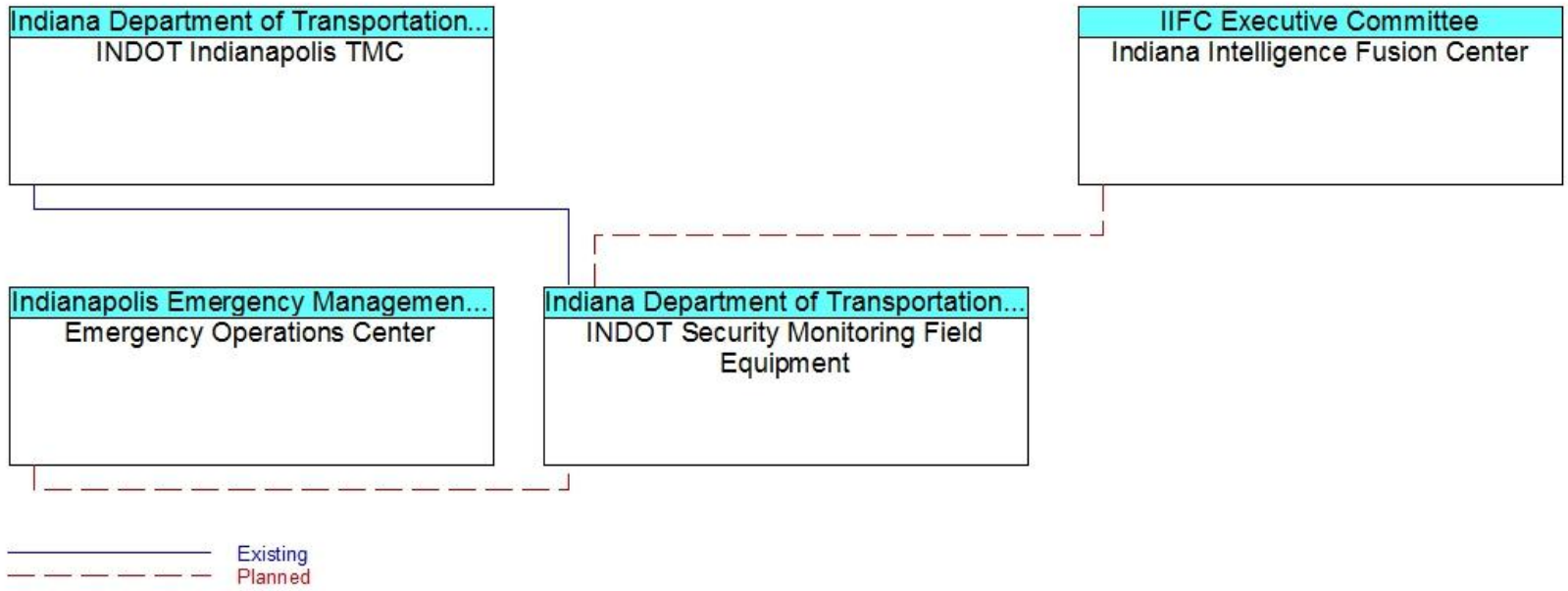
INDOT MCO Field Devices



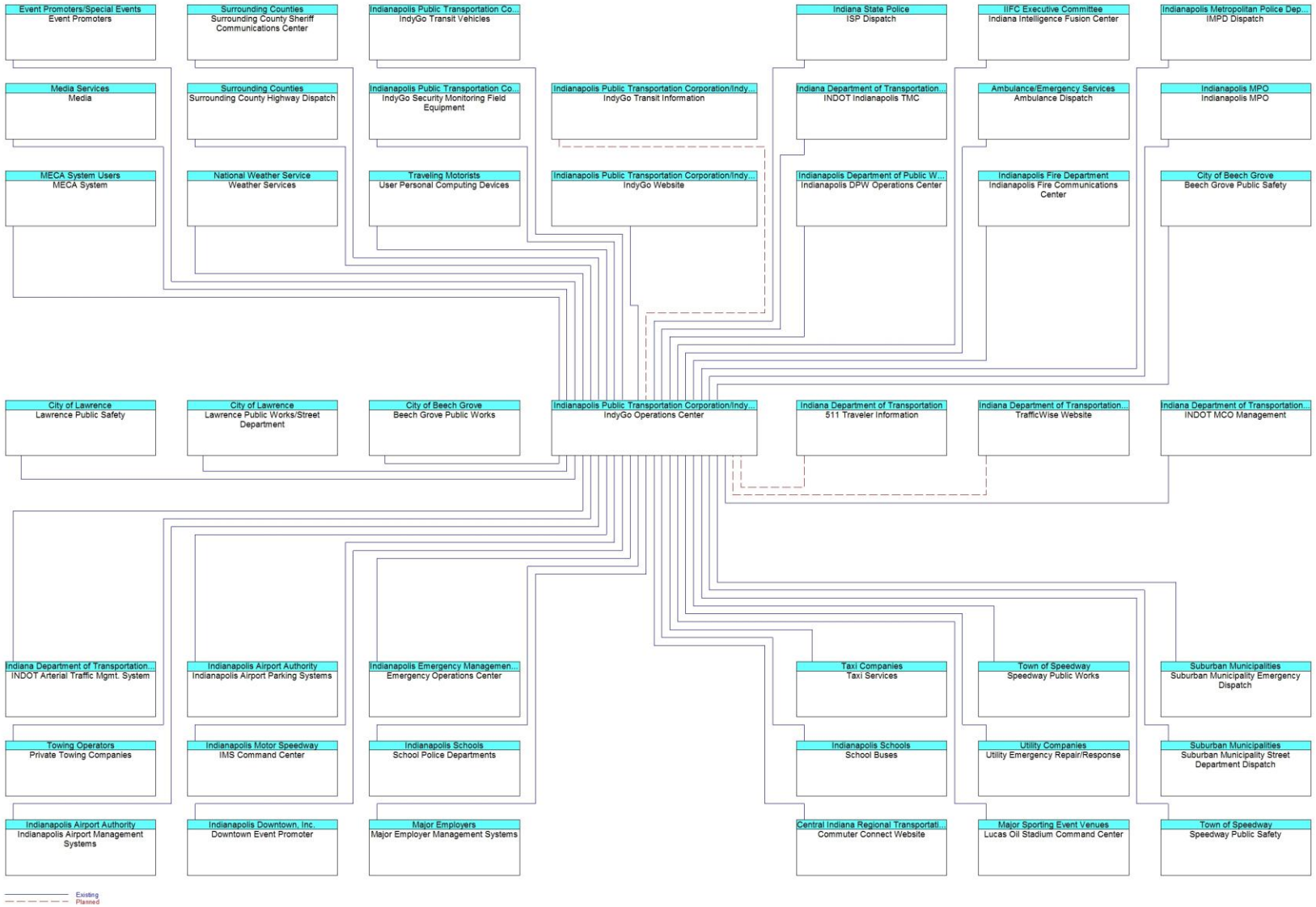
INDOT MCO Management



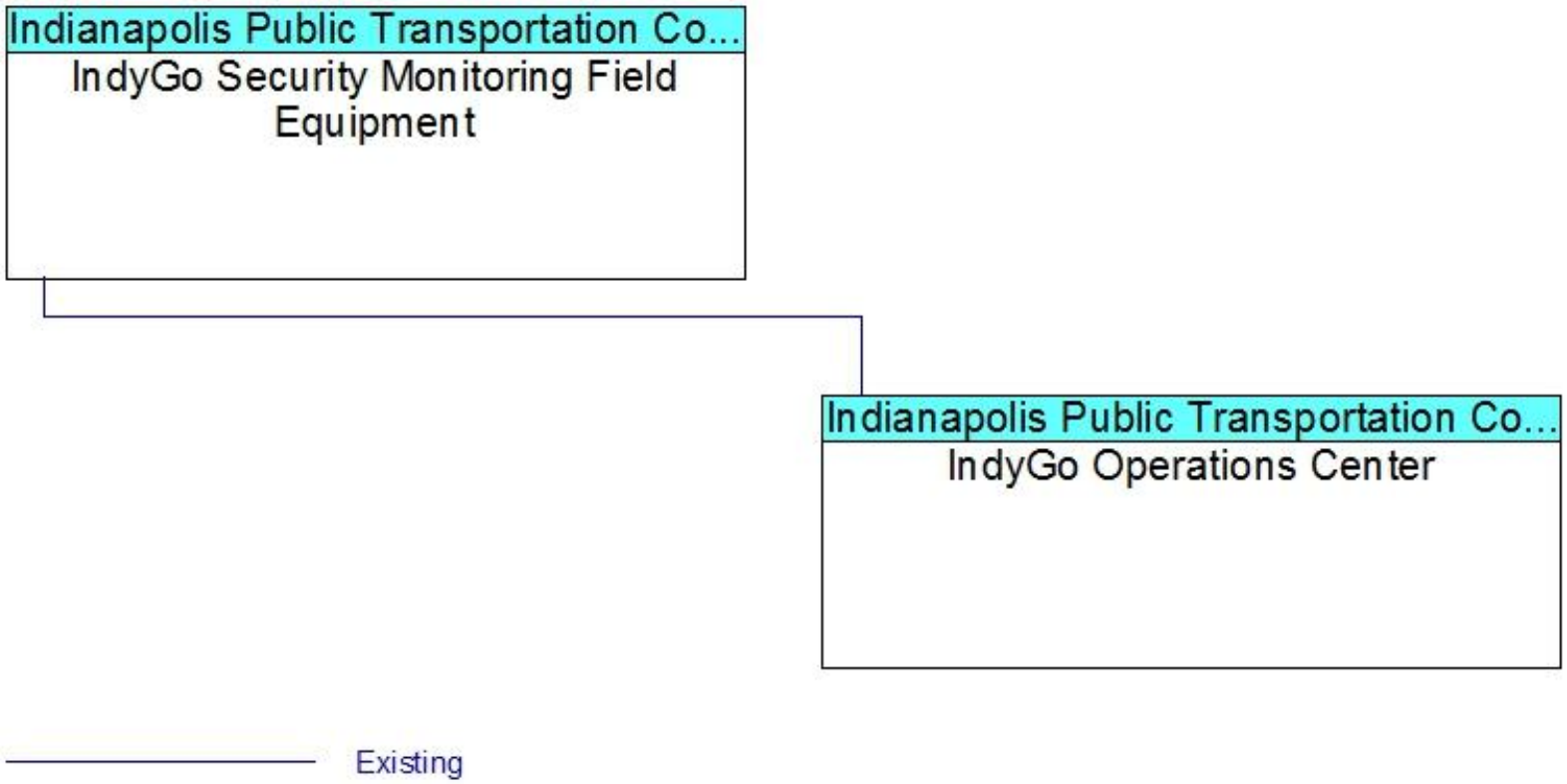
INDOT MCO Vehicles



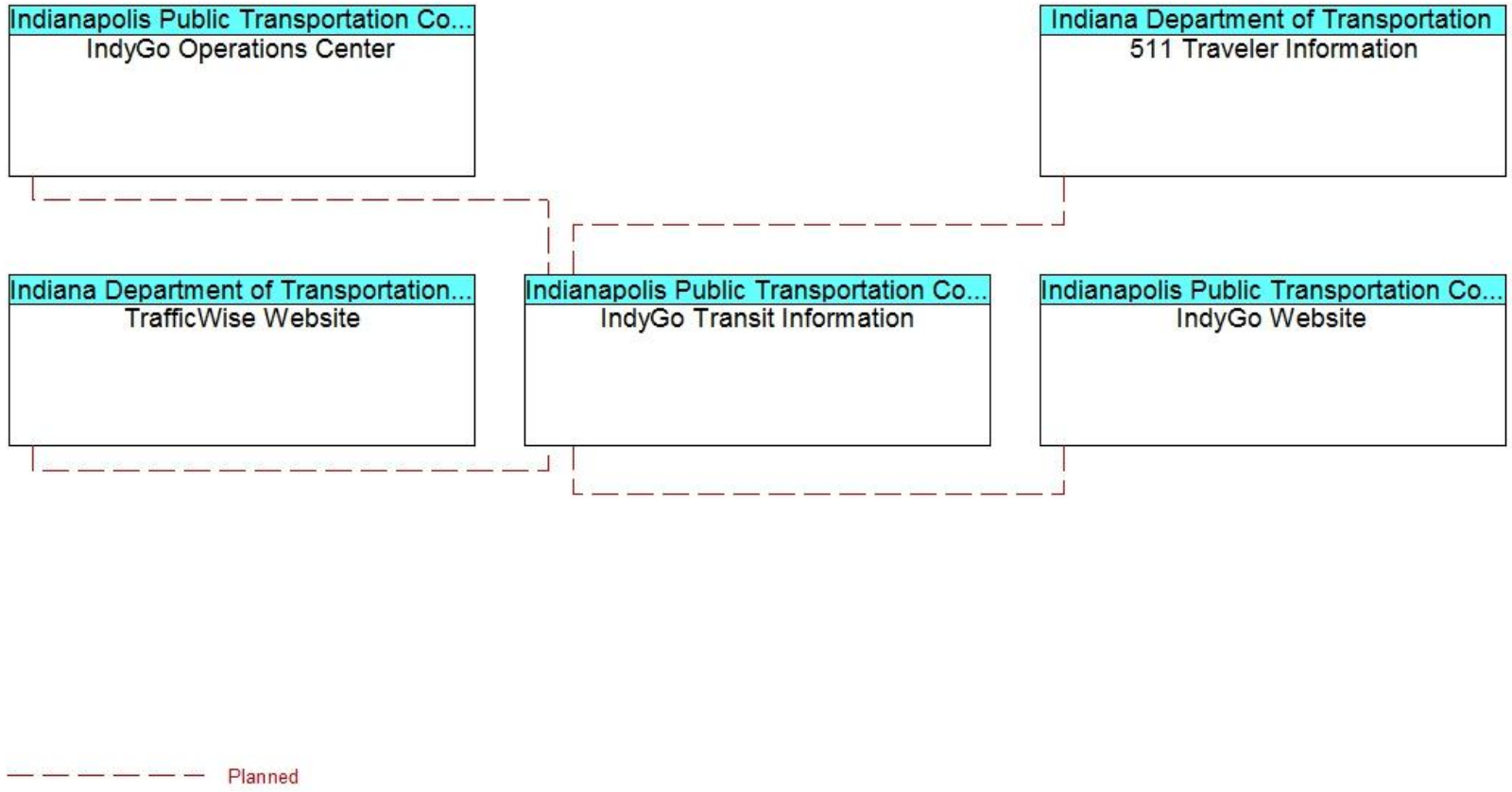
INDOT Security Monitoring Field Equipment



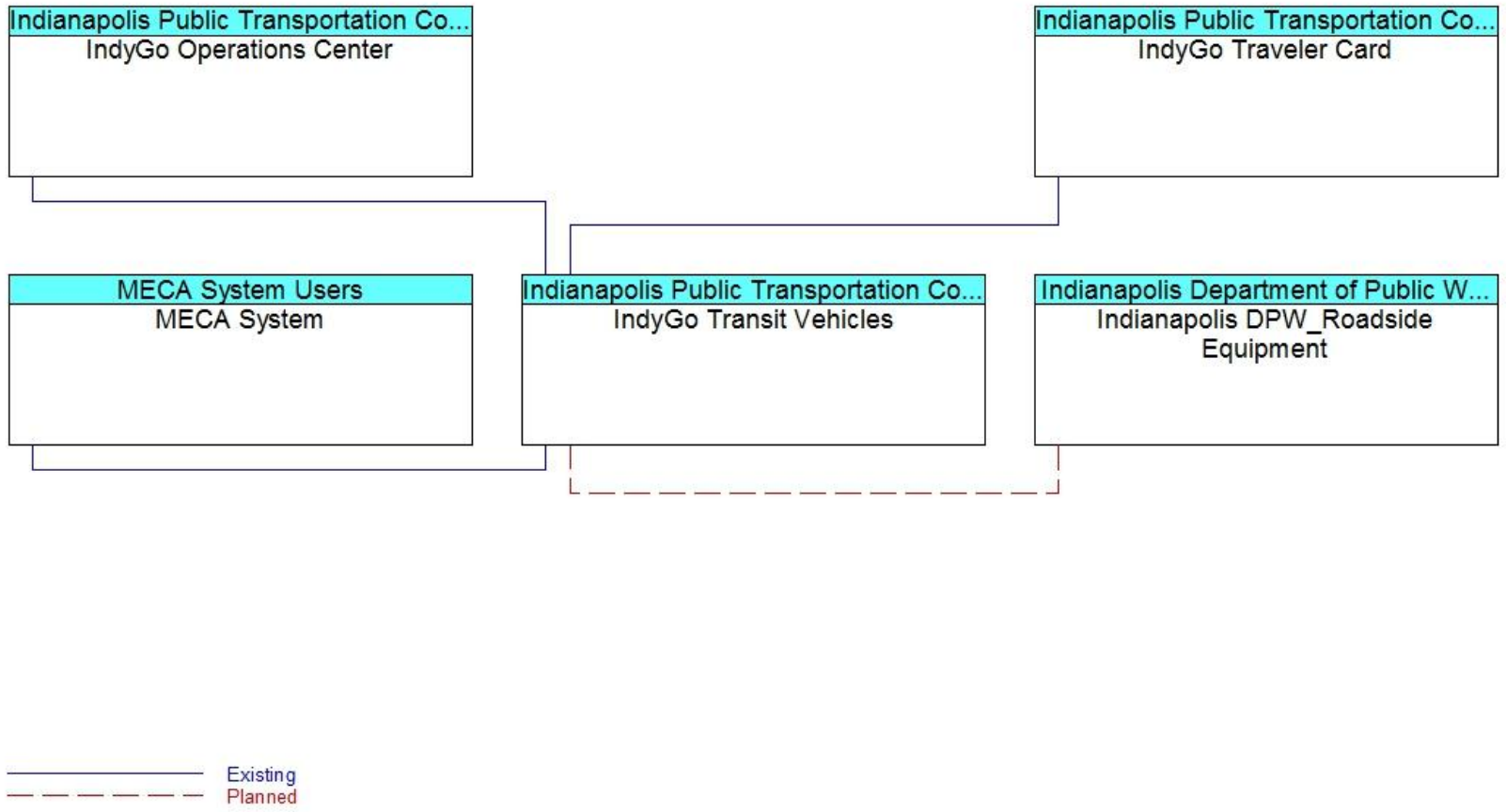
IndyGo Operations Center



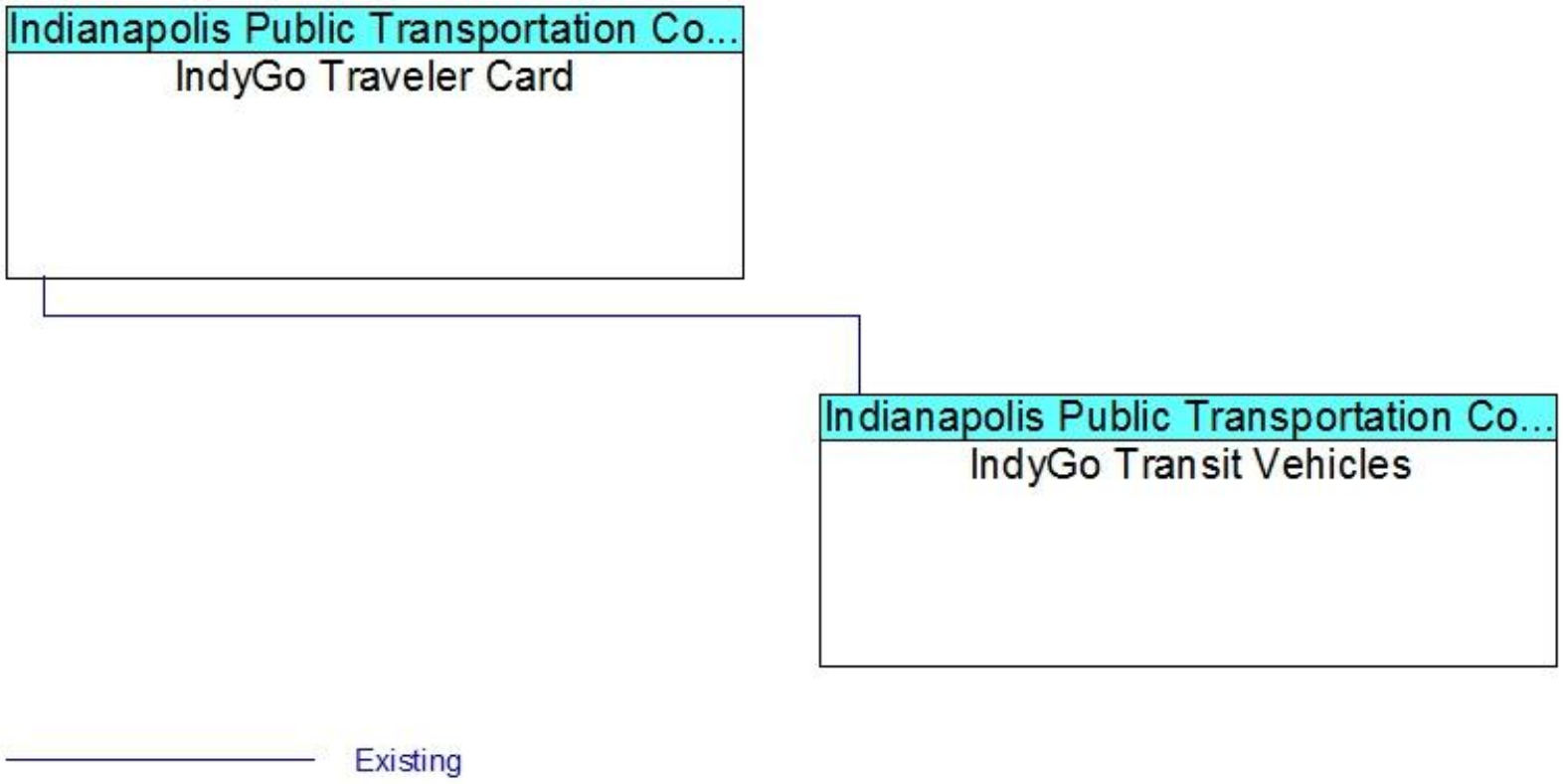
IndyGo Security Monitoring Field Equipment



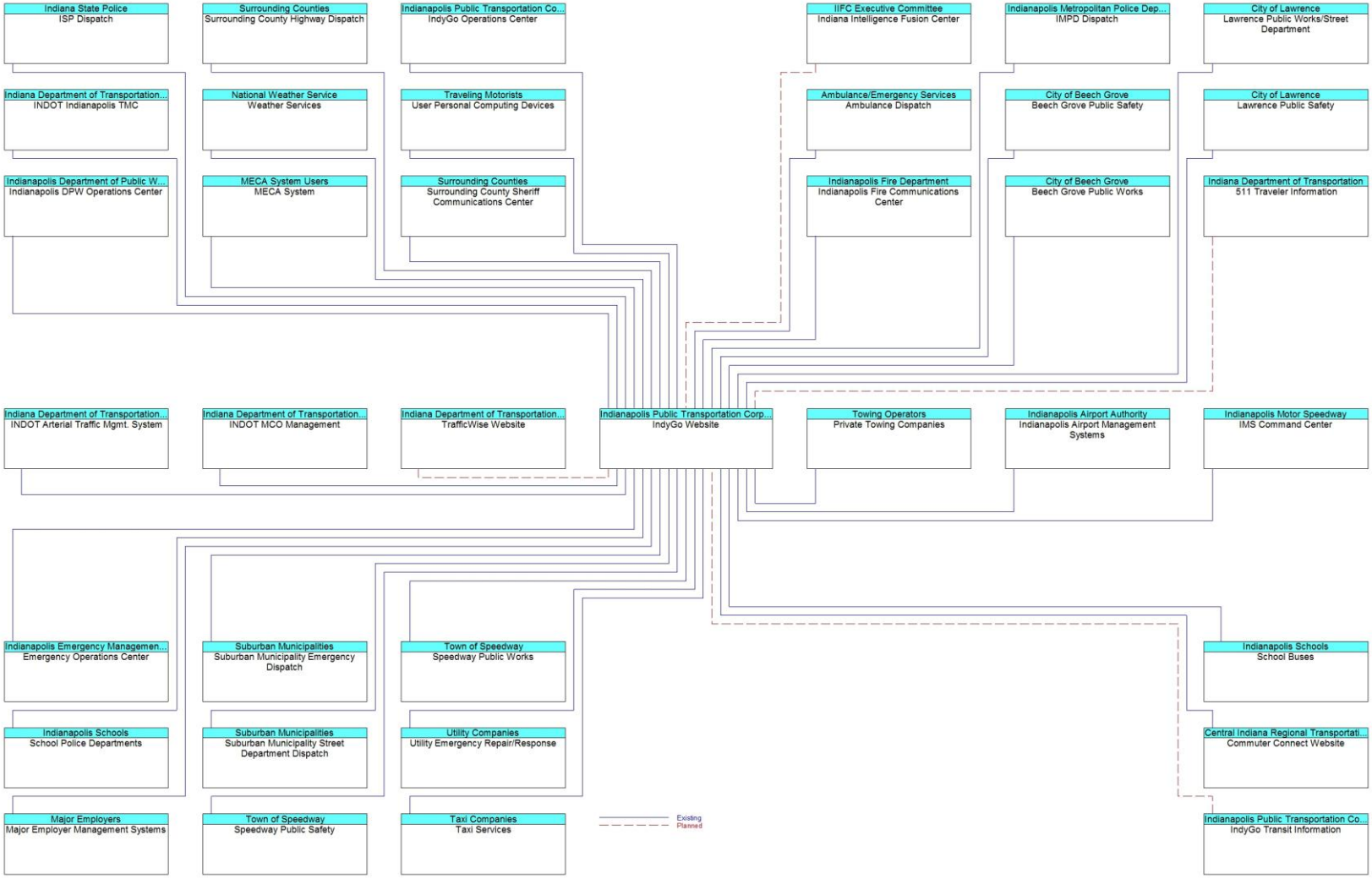
IndyGo Transit Information



IndyGo Transit Vehicles

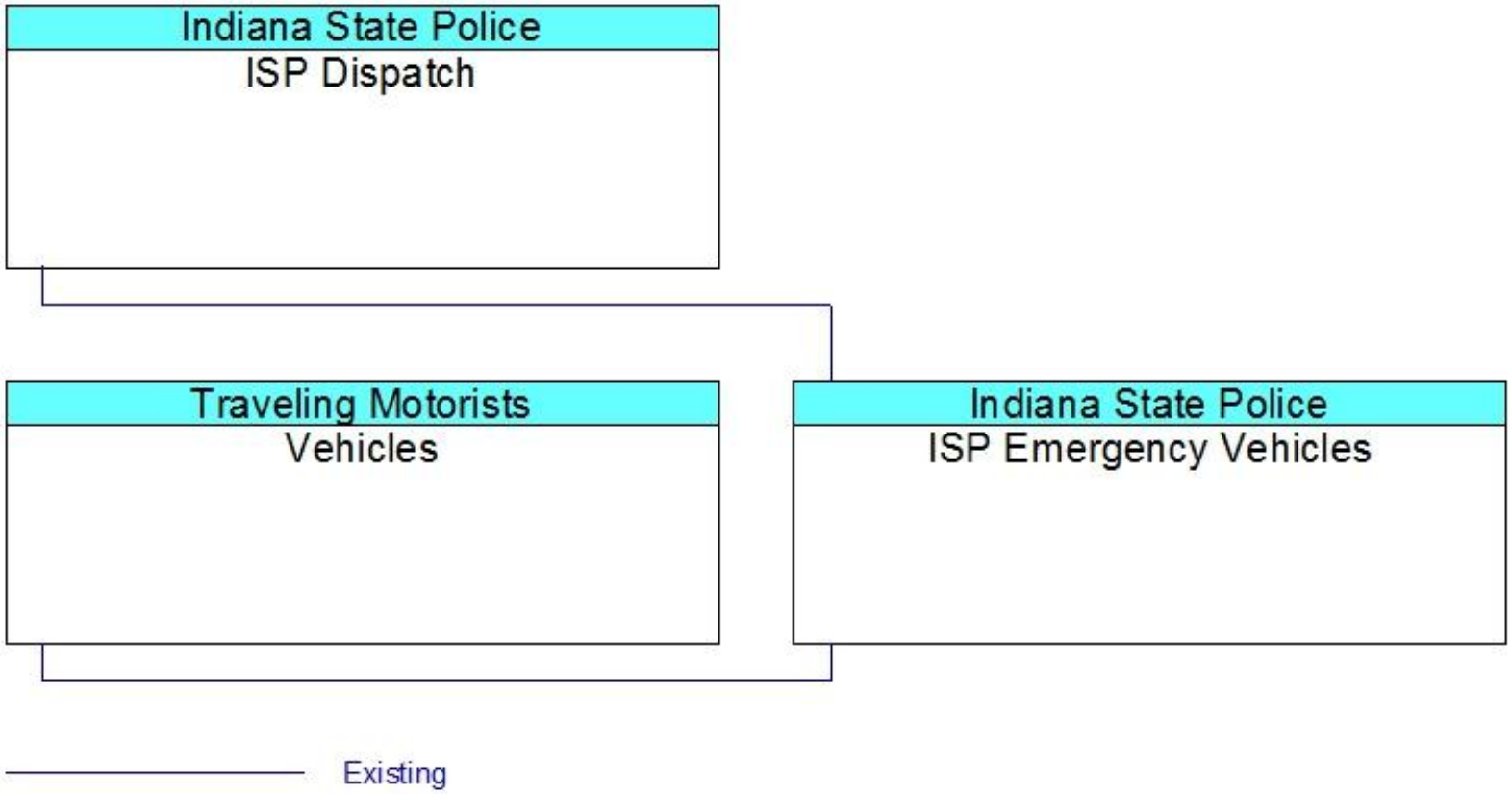


IndyGo Traveler Card

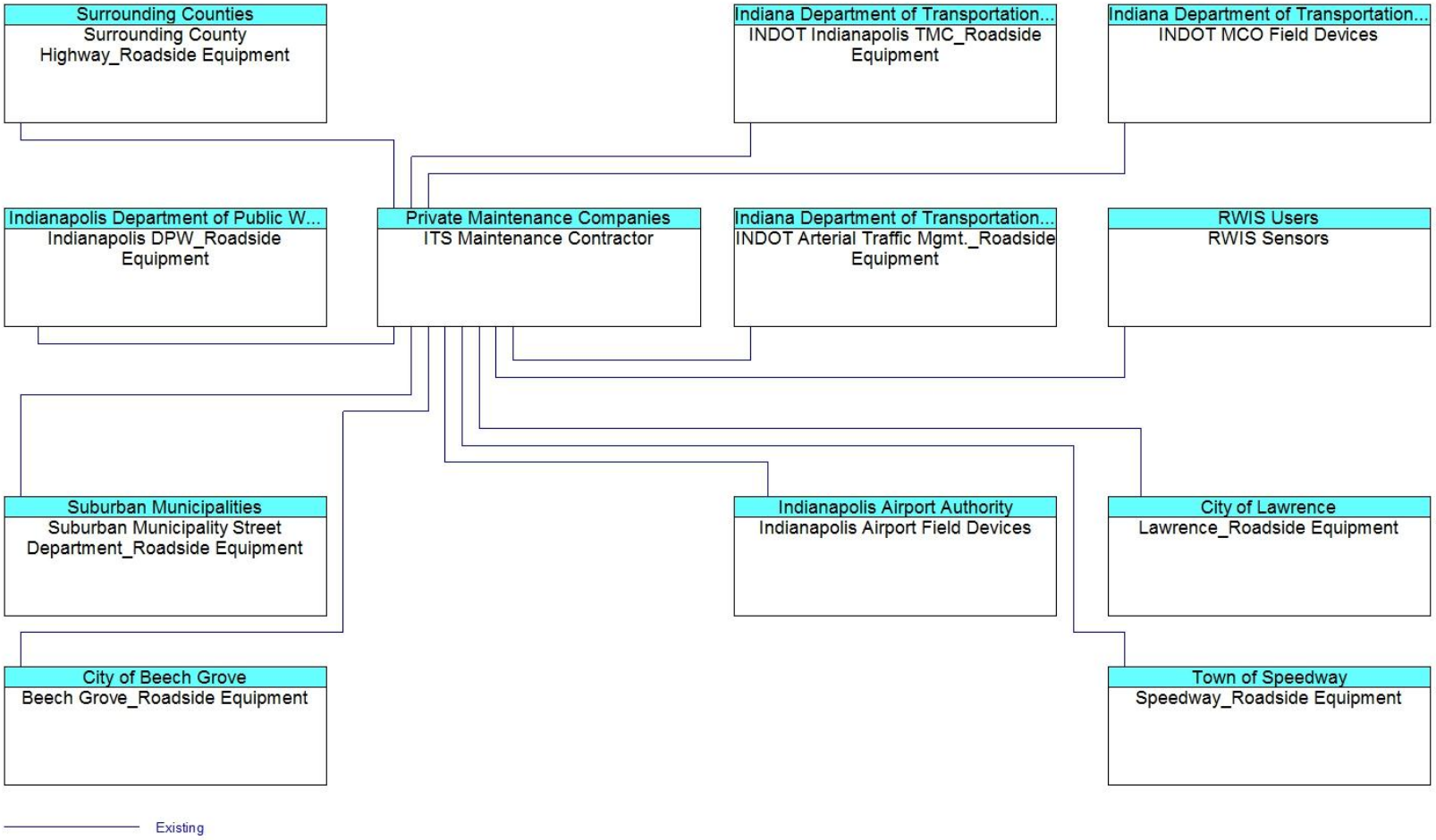


IndyGo Website

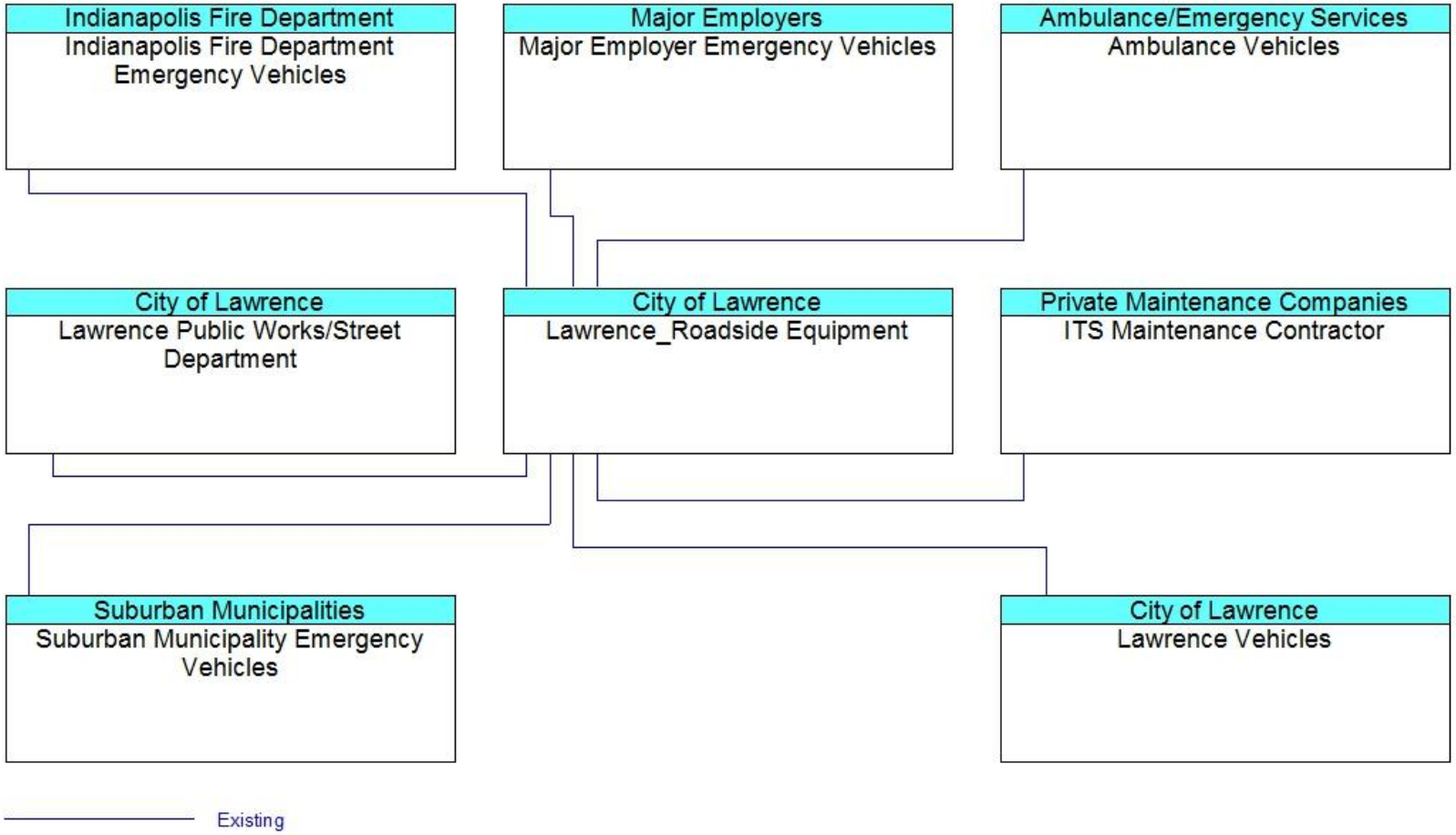
ISP Dispatch



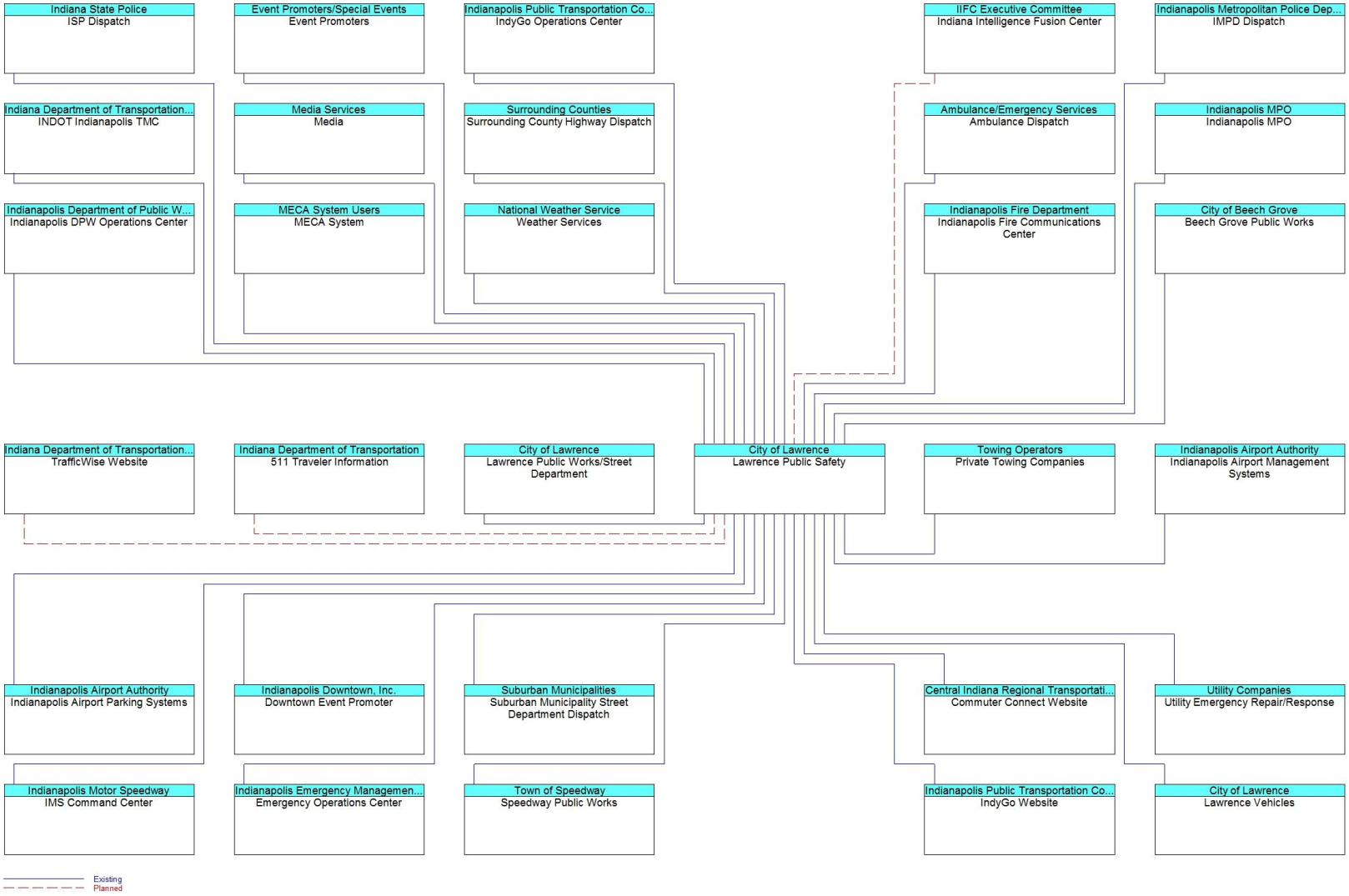
ISP Emergency Vehicles



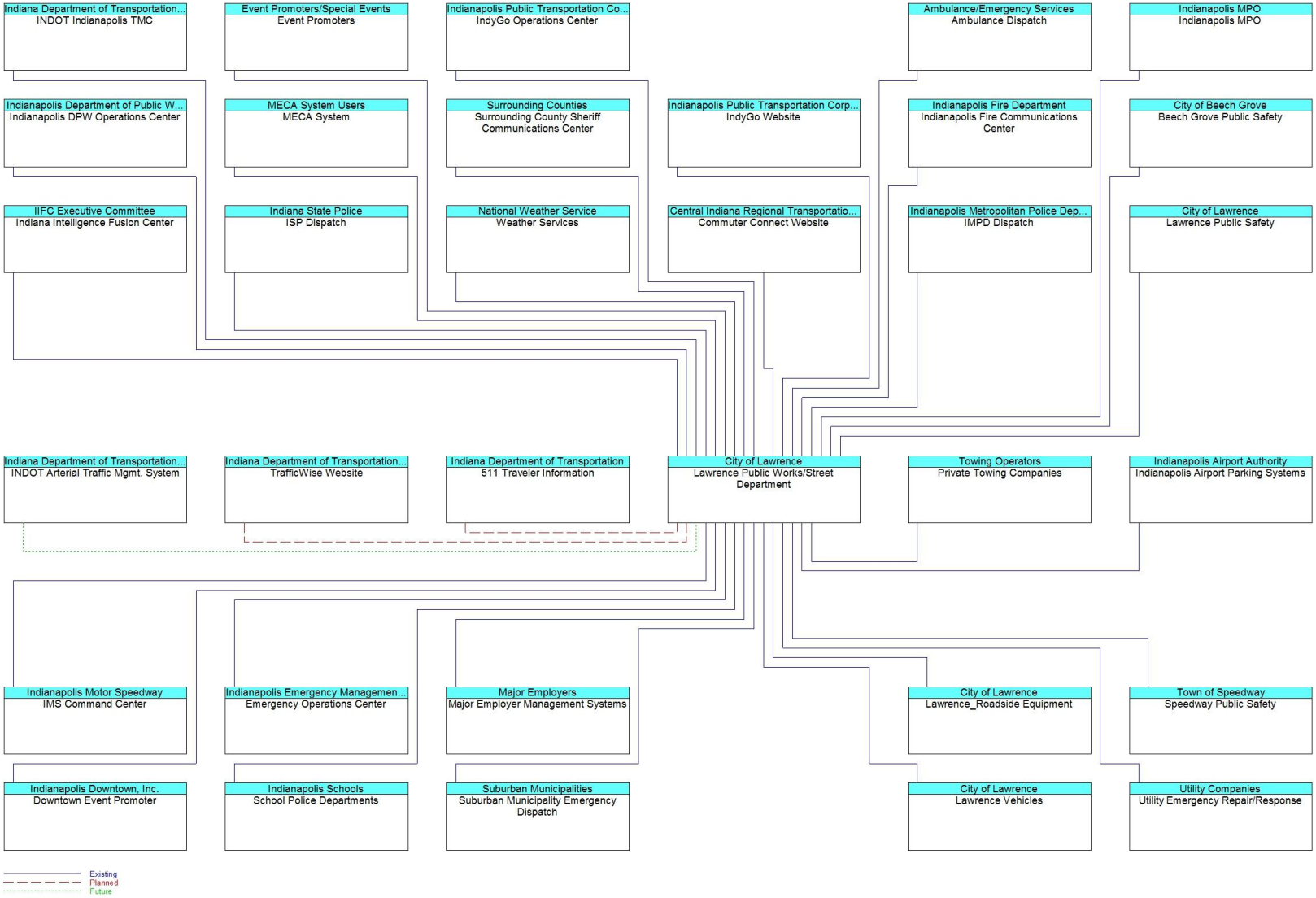
ITS Maintenance Contractor



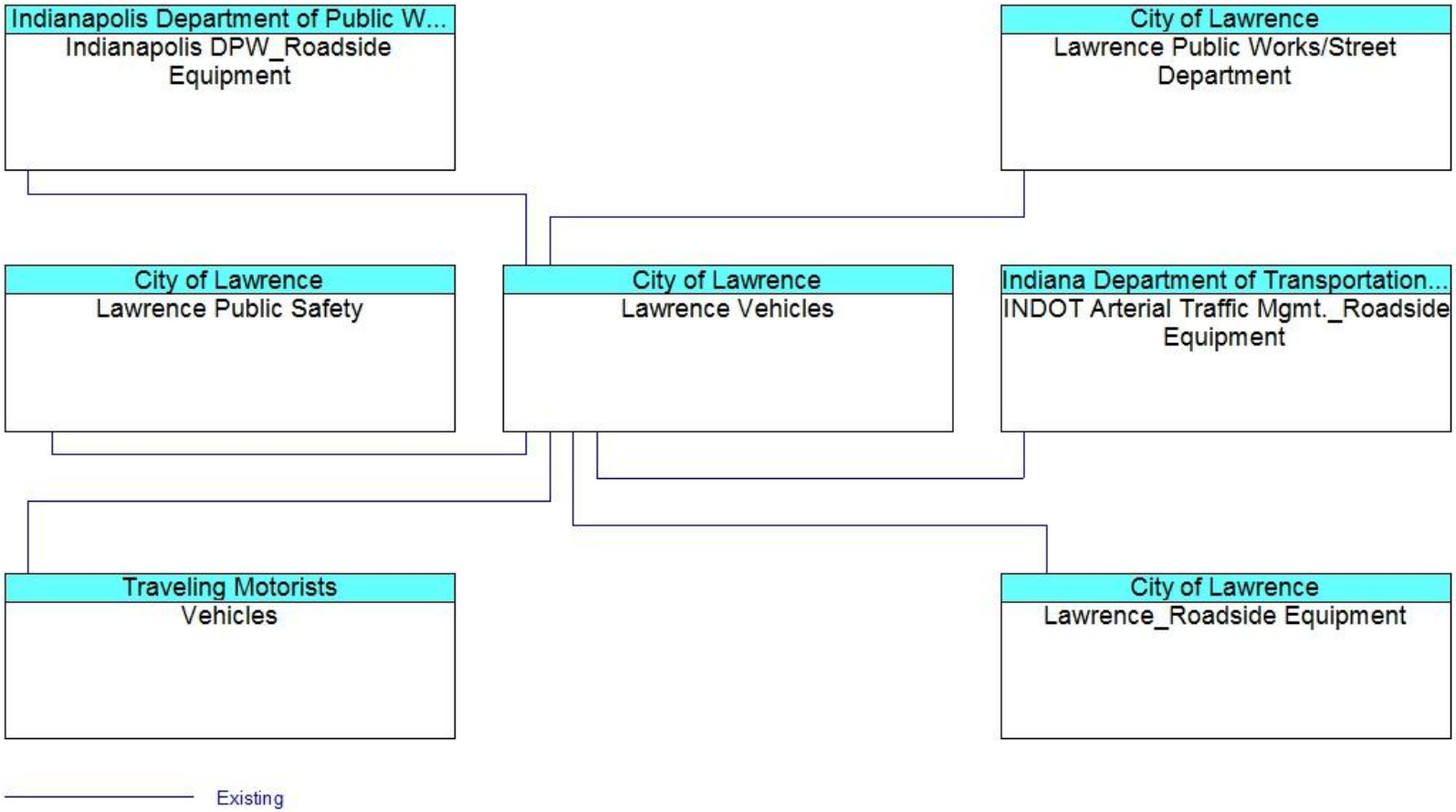
Lawrence Roadside Equipment



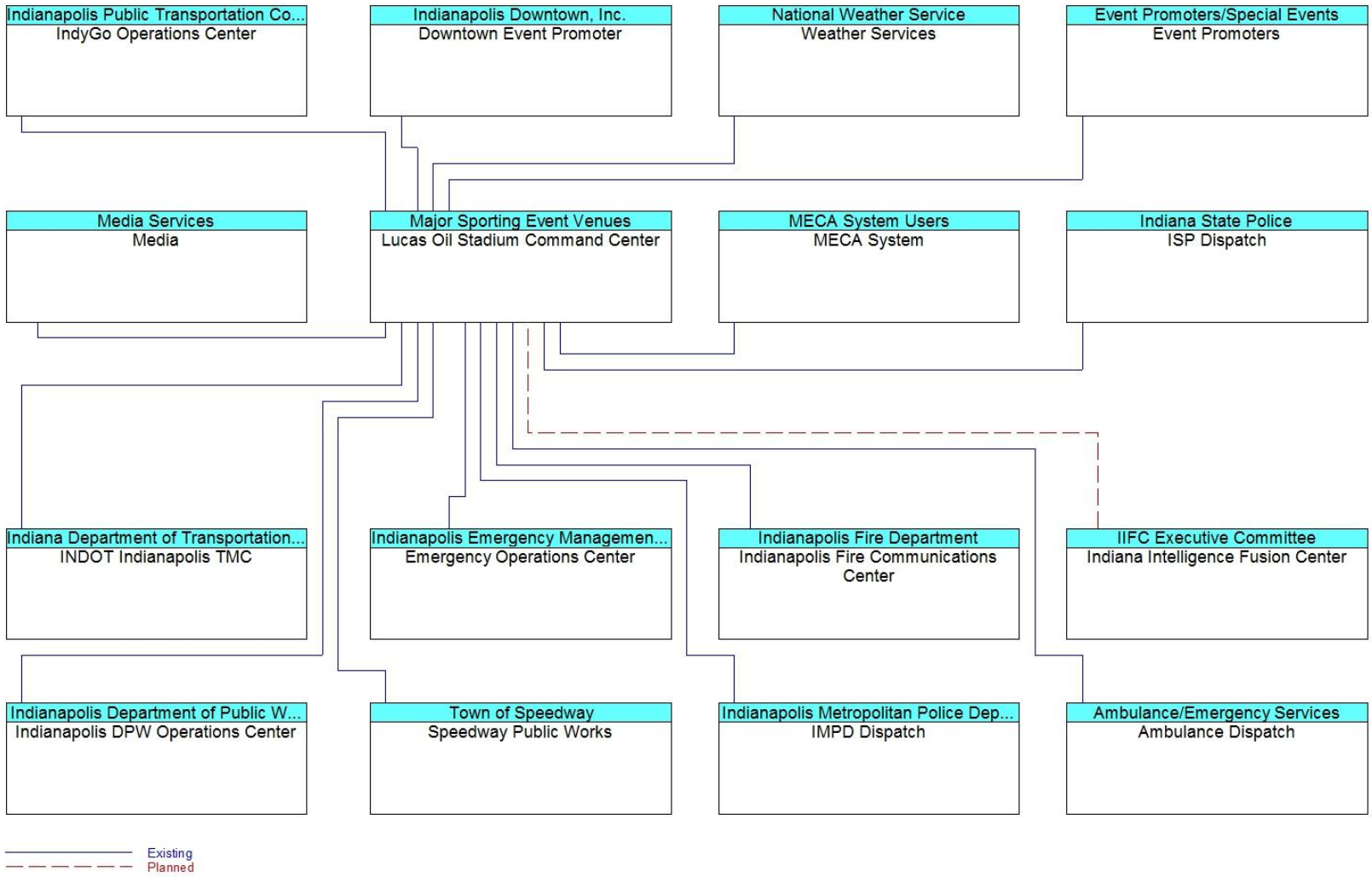
Lawrence Public Safety



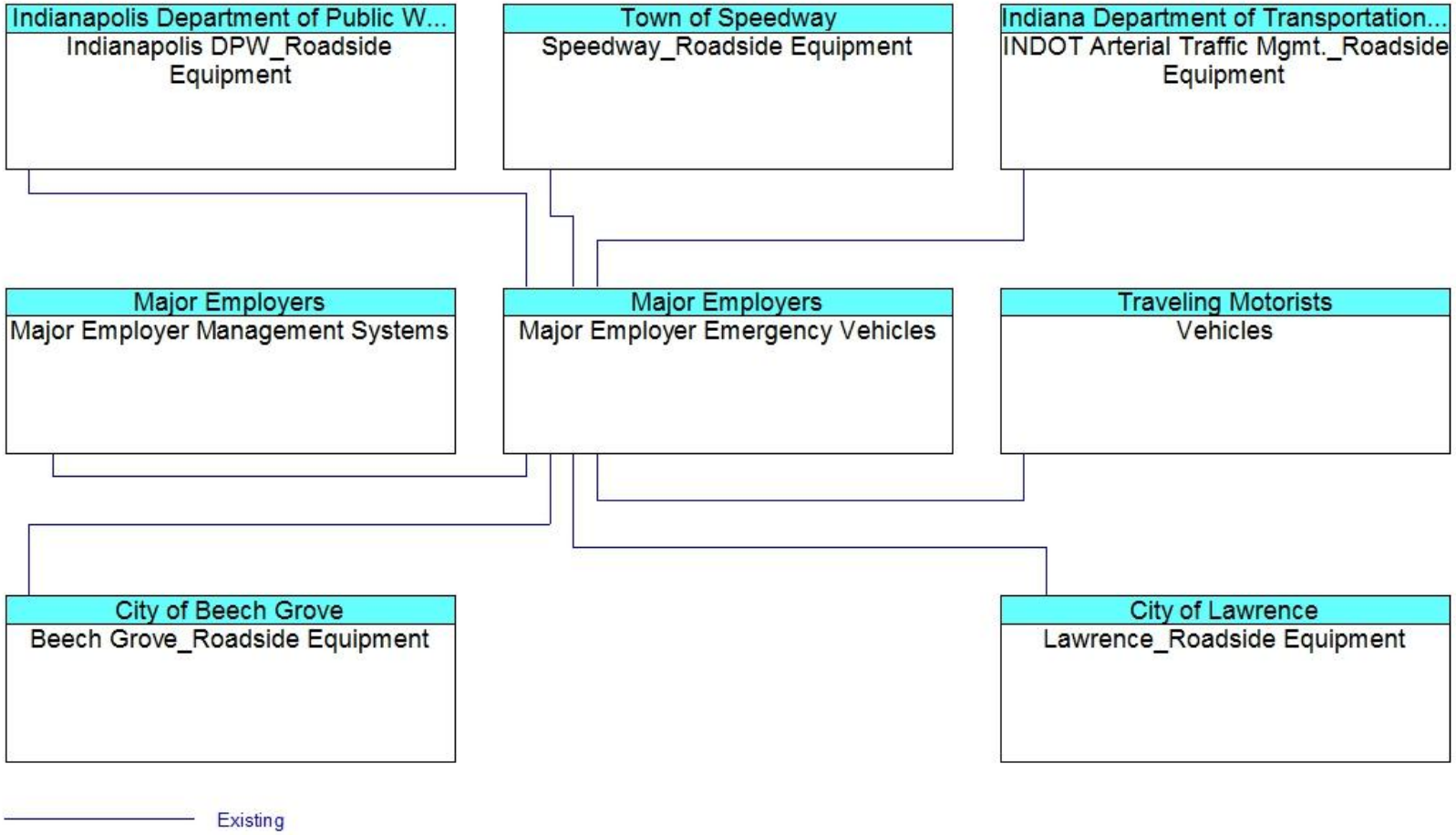
Lawrence Public Works/Street Department



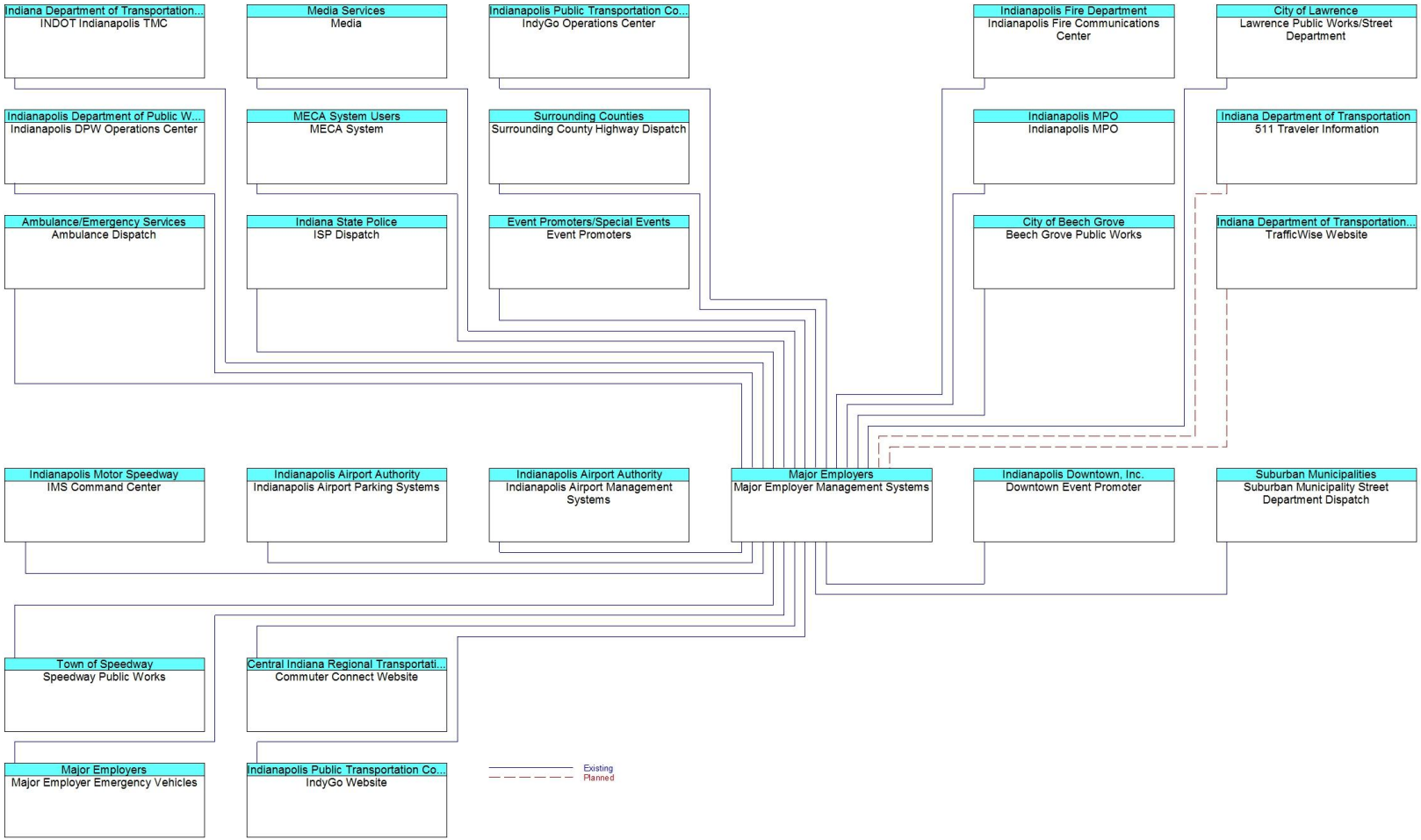
Lawrence Vehicles



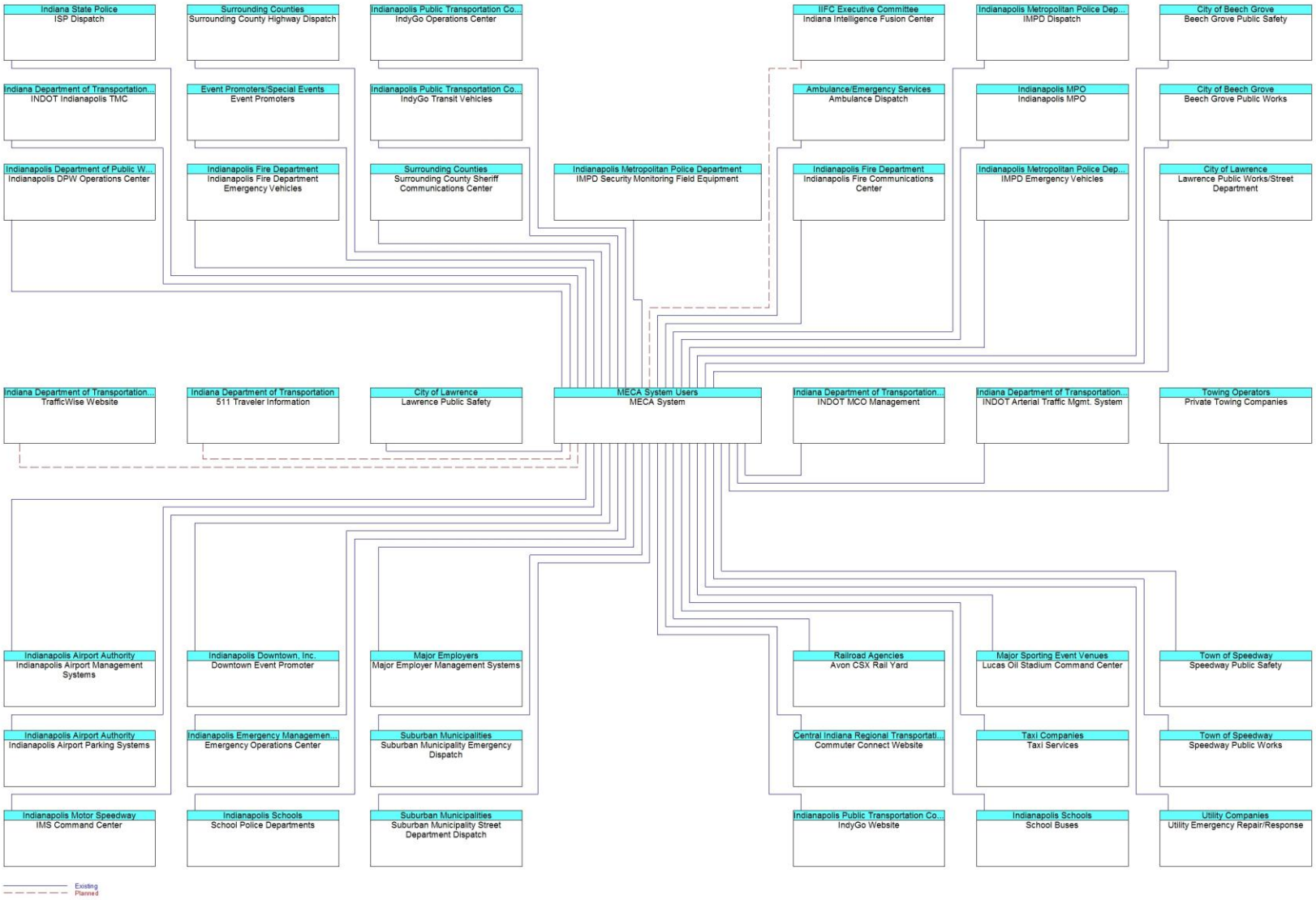
Lucas Oil Stadium Command Center



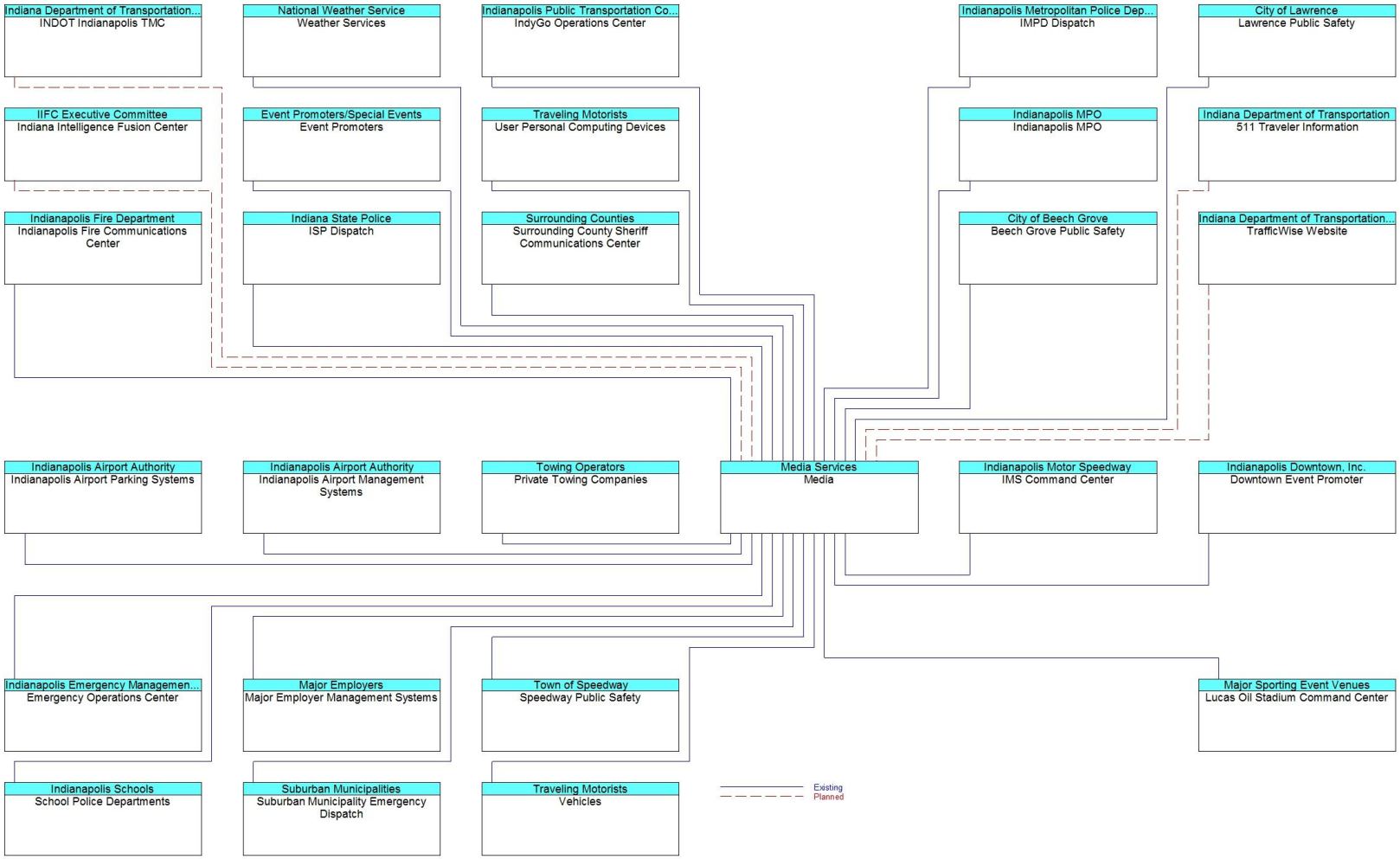
Major Employer Emergency Vehicles



Major Employer Management Systems


Indiana State Police
ISP Dispatch
Surrounding Counties
Surrounding County Highway Dispatch
Indianapolis Public Transportation Co...
IndyGo Operations Center
IIFC Executive Committee
Indiana Intelligence Fusion Center
Indianapolis Metropolitan Police Dep...
IMPD Dispatch
City of Beech Grove
Beech Grove Public Safety
Indiana Department of Transportation...
INDOT Indianapolis TMC
Event Promoters/Special Events
Event Promoters
Indianapolis Public Transportation Co...
IndyGo Transit Vehicles
Ambulance/Emergency Services
Ambulance Dispatch
Indianapolis MPO
Indianapolis MPO
City of Beech Grove
Beech Grove Public Works
Indianapolis Department of Public W...
Indianapolis DPW Operations Center
Indianapolis Fire Department
Indianapolis Fire Department Emergency Vehicles
Surrounding Counties
Surrounding County Sheriff Communications Center
Indianapolis Metropolitan Police Department
IMPD Security Monitoring Field Equipment
Indianapolis Fire Department
Indianapolis Fire Communications Center
Indianapolis Metropolitan Police Dep...
IMPD Emergency Vehicles
City of Lawrence
Lawrence Public Works/Street Department
Indiana Department of Transportation...
TrafficWise Website
Indiana Department of Transportation
511 Traveler Information
City of Lawrence
Lawrence Public Safety
MECA System Users
MECA System
Indiana Department of Transportation...
INDOT MCO Management
Indiana Department of Transportation...
INDOT Arterial Traffic Mgmt. System
Towing Operators
Private Towing Companies
Indianapolis Airport Authority
Indianapolis Airport Management Systems
Indianapolis Downtown, Inc.
Downtown Event Promoter
Major Employers
Major Employer Management Systems
Railroad Agencies
Avon CSX Rail Yard
Major Sporting Event Venues
Lucas Oil Stadium Command Center
Town of Speedway
Speedway Public Safety
Indianapolis Airport Authority
Indianapolis Airport Parking Systems
Indianapolis Emergency Managemen...
Emergency Operations Center
Suburban Municipalities
Suburban Municipality Emergency Dispatch
Central Indiana Regional Transportati...
Commuter Connect Website
Taxi Companies
Taxi Services
Town of Speedway
Speedway Public Works
Indianapolis Motor Speedway
IMS Command Center
Indianapolis Schools
School Police Departments
Suburban Municipalities
Suburban Municipality Street Department Dispatch
Indianapolis Public Transportation Co...
IndyGo Website
Indianapolis Schools
School Buses
Utility Companies
Utility Emergency Repair/Response
Existing
Planned

MECA System


Indiana Department of Transportation...
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Weather Services
Indianapolis Public Transportation Co...
IndyGo Operations Center
Indianapolis Metropolitan Police Dep...
IMPD Dispatch
City of Lawrence
Lawrence Public Safety
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Event Promoters/Special Events
Event Promoters
Traveling Motorists
User Personal Computing Devices
Indianapolis MPO
Indianapolis MPO
Indiana Department of Transportation
511 Traveler Information
Indianapolis Fire Department
Indianapolis Fire Communications Center
Indiana State Police
ISP Dispatch
Surrounding Counties
Surrounding County Sheriff Communications Center
City of Beech Grove
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Indiana Department of Transportation...
TrafficWise Website
Indianapolis Airport Authority
Indianapolis Airport Parking Systems
Indianapolis Airport Authority
Indianapolis Airport Management Systems
Towing Operators
Private Towing Companies
Media Services
Media
Indianapolis Motor Speedway
IMS Command Center
Indianapolis Downtown, Inc.
Downtown Event Promoter
Indianapolis Emergency Managemen...
Emergency Operations Center
Major Employers
Major Employer Management Systems
Town of Speedway
Speedway Public Safety
Major Sporting Event Venues
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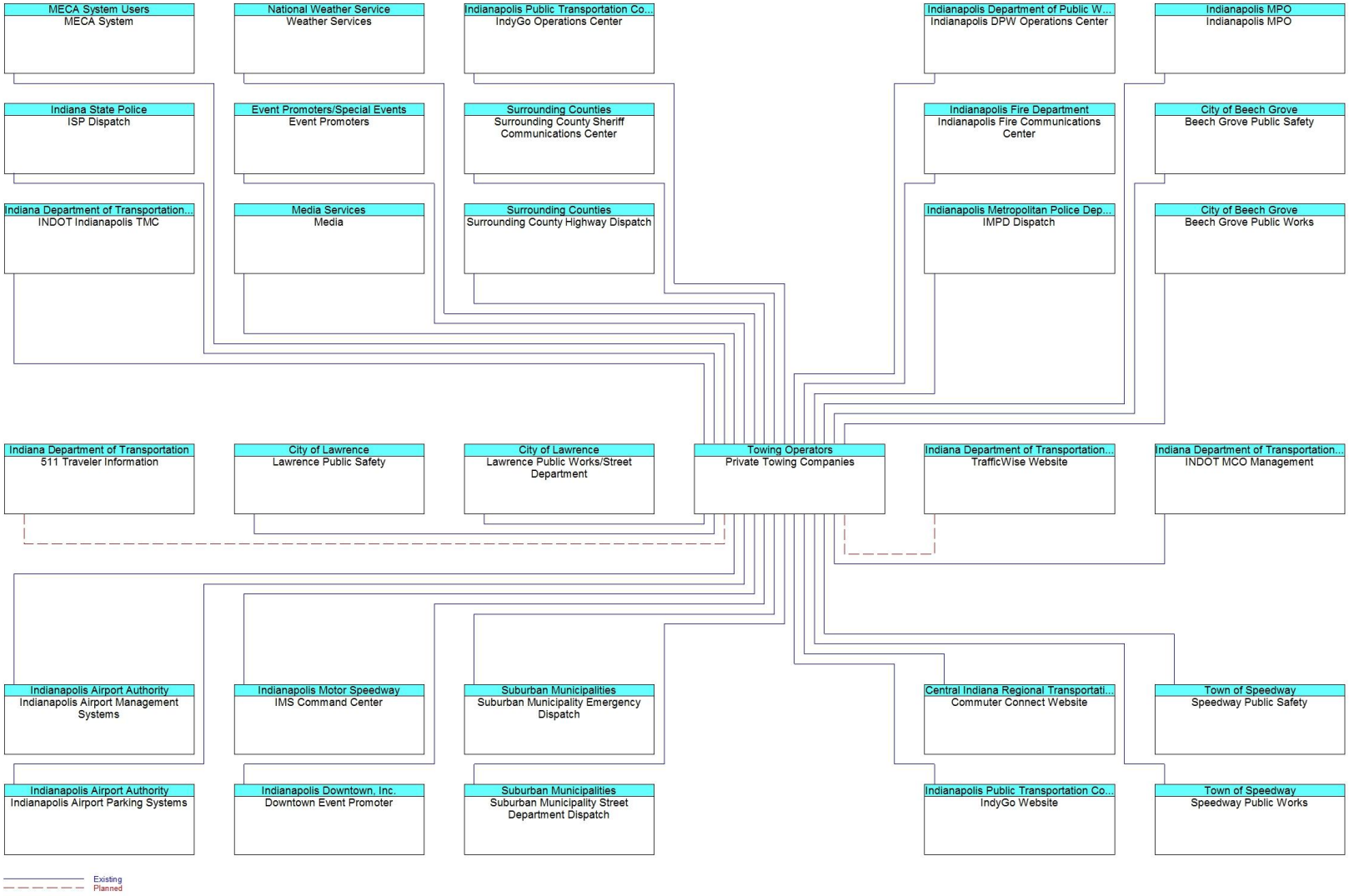
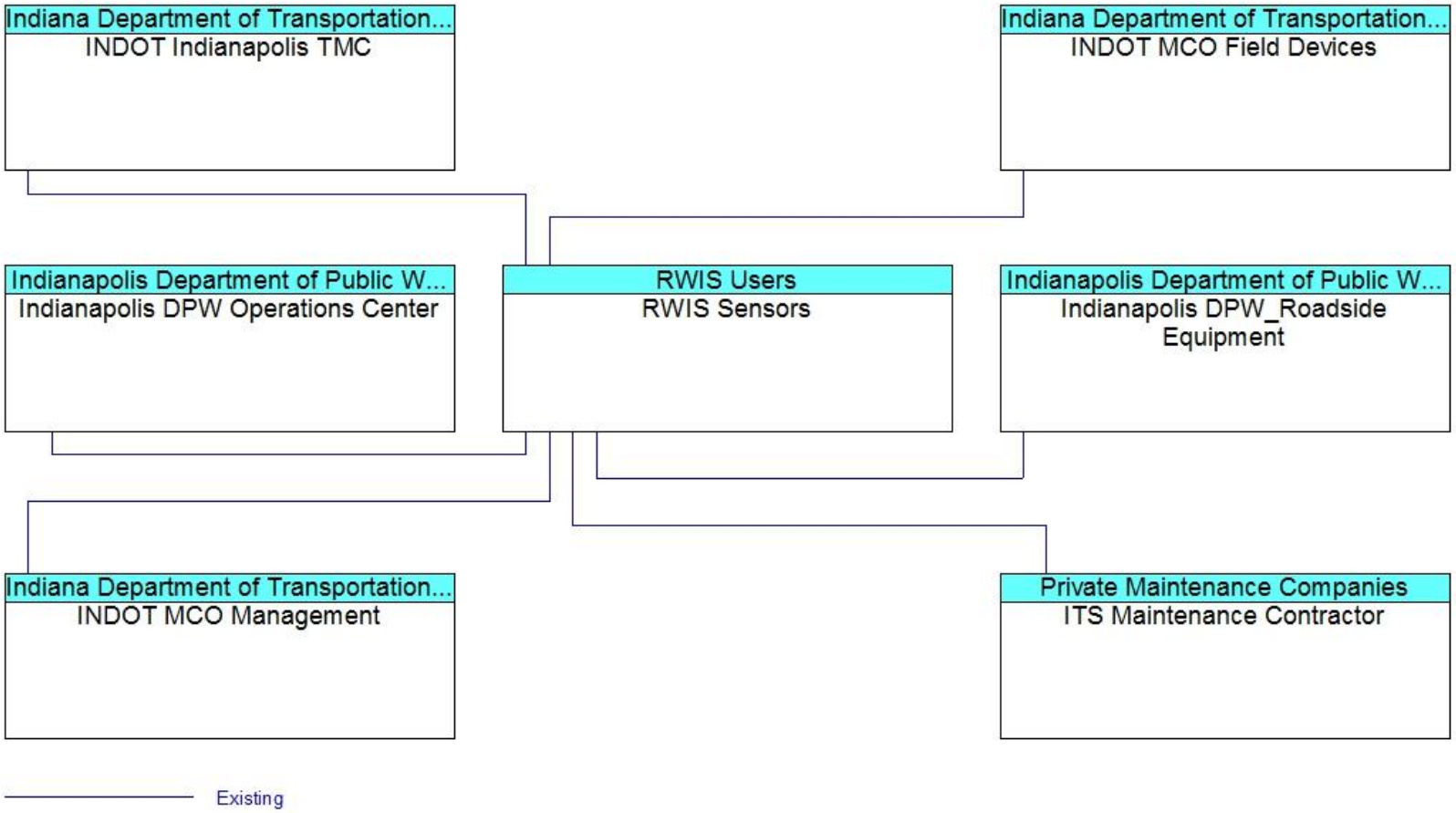
Indianapolis Schools
School Police Departments
Suburban Municipalities
Suburban Municipality Emergency Dispatch
Traveling Motorists
Vehicles
Existing
Planned

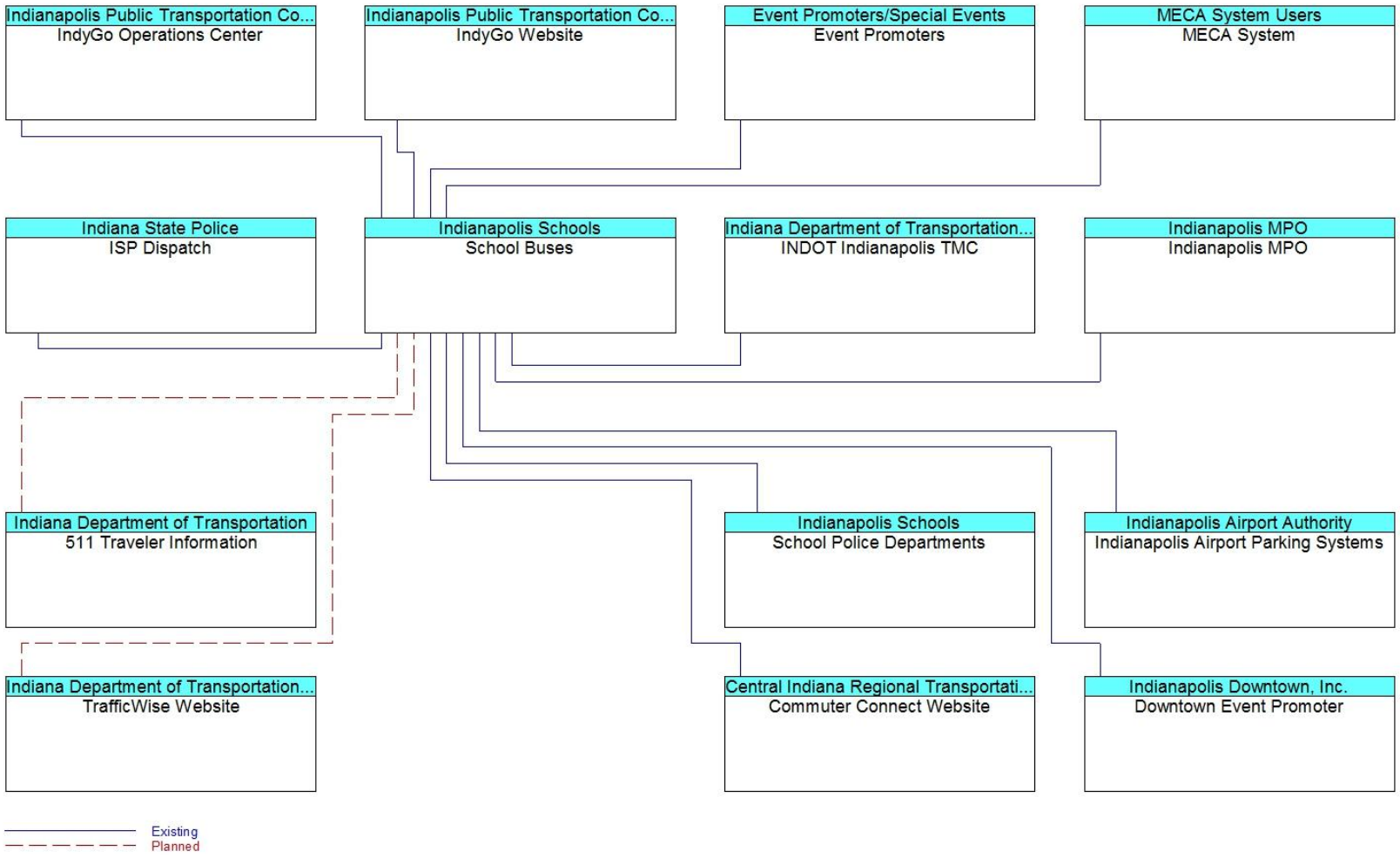
Media



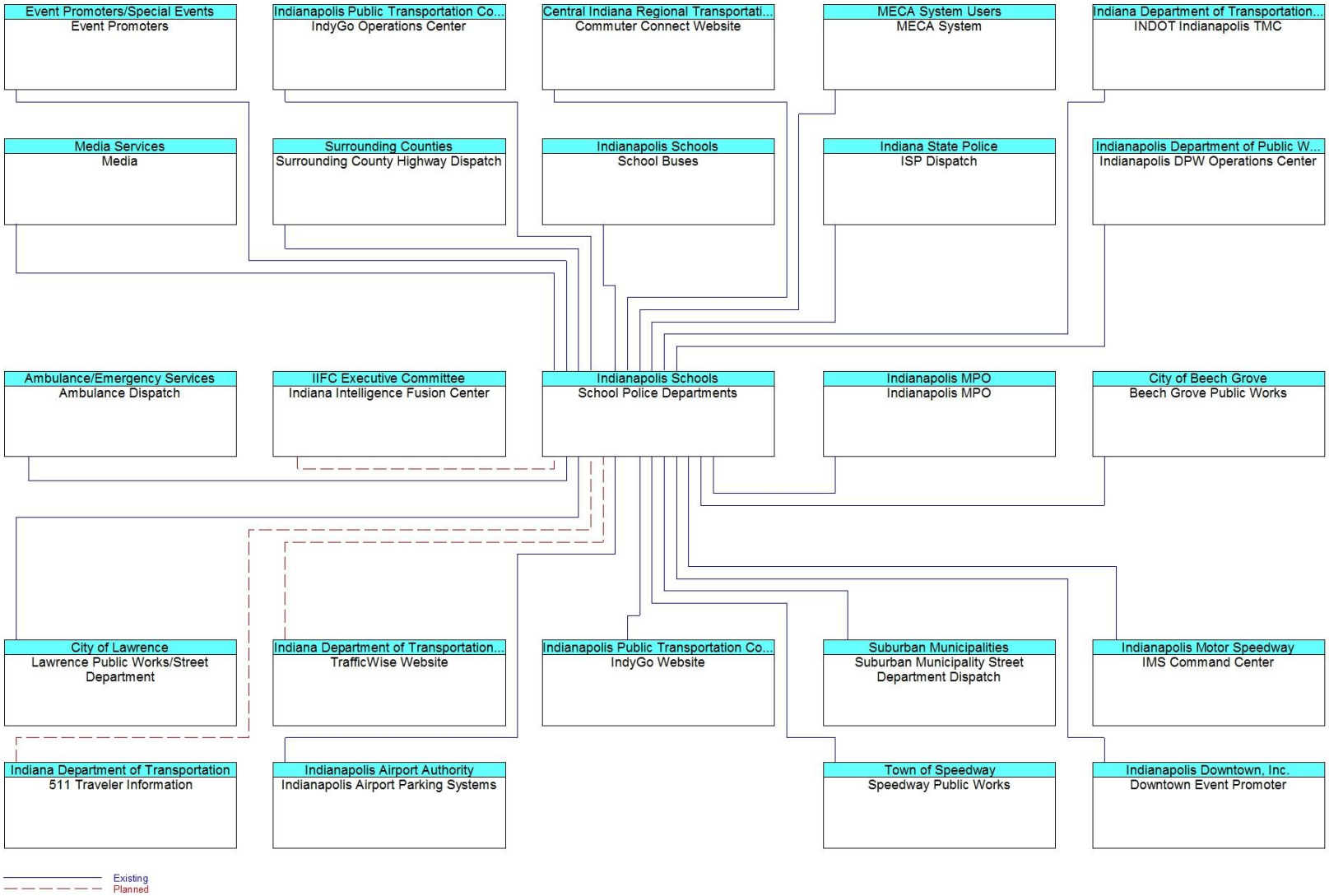
Private Towing Companies



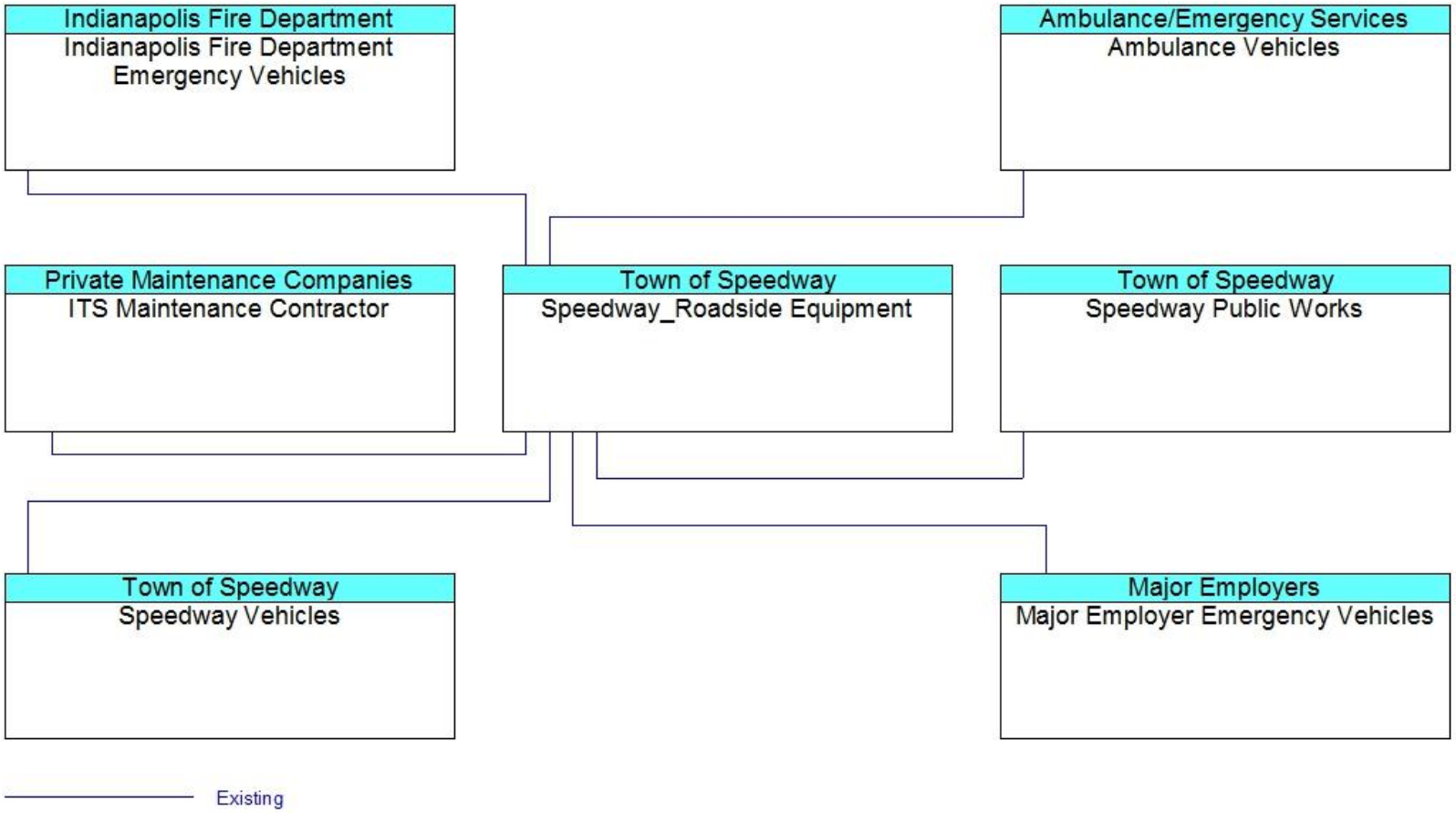
RWIS Sensors



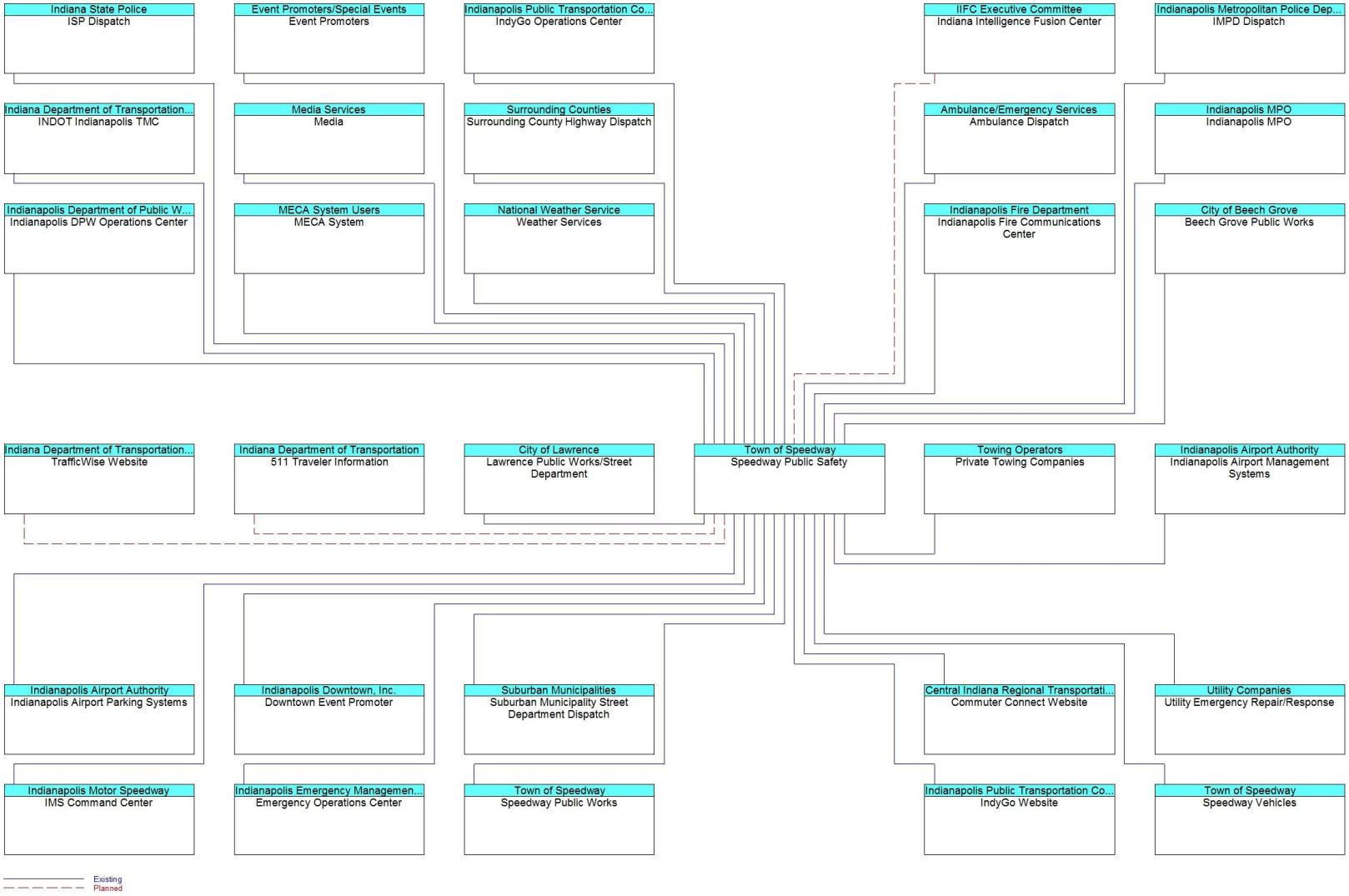
School Buses



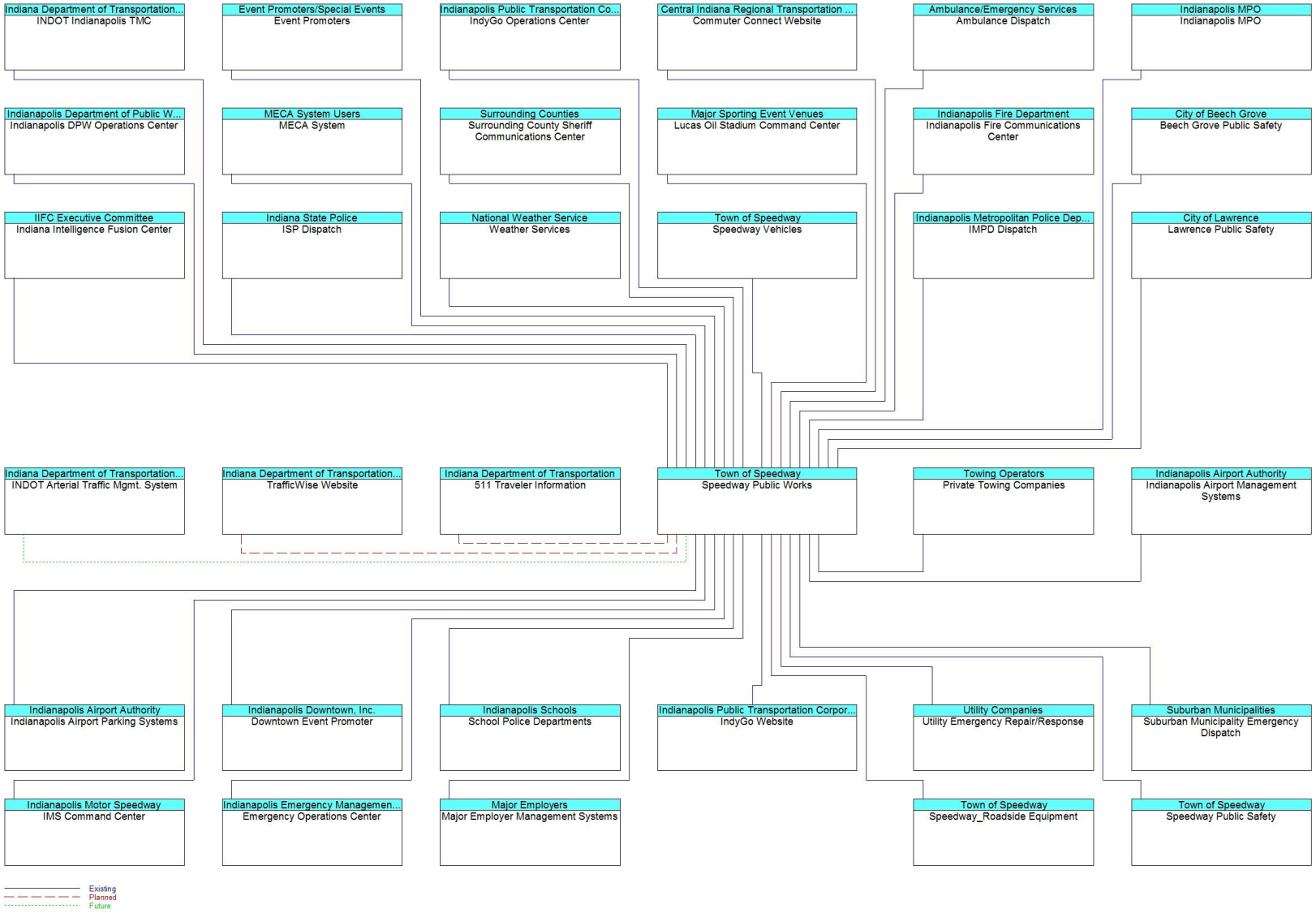
School Police Departments



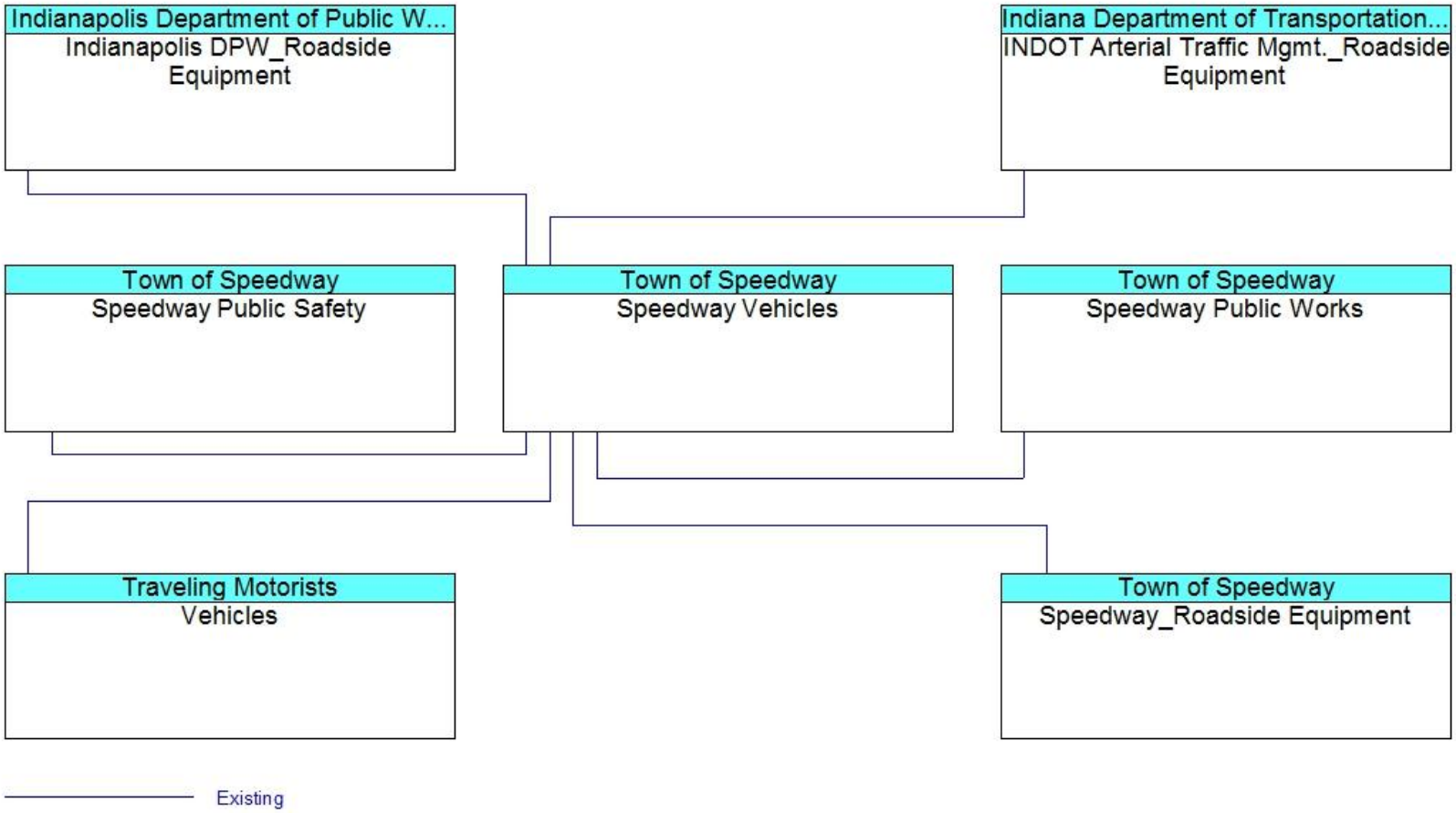
Speedway Roadside Equipment



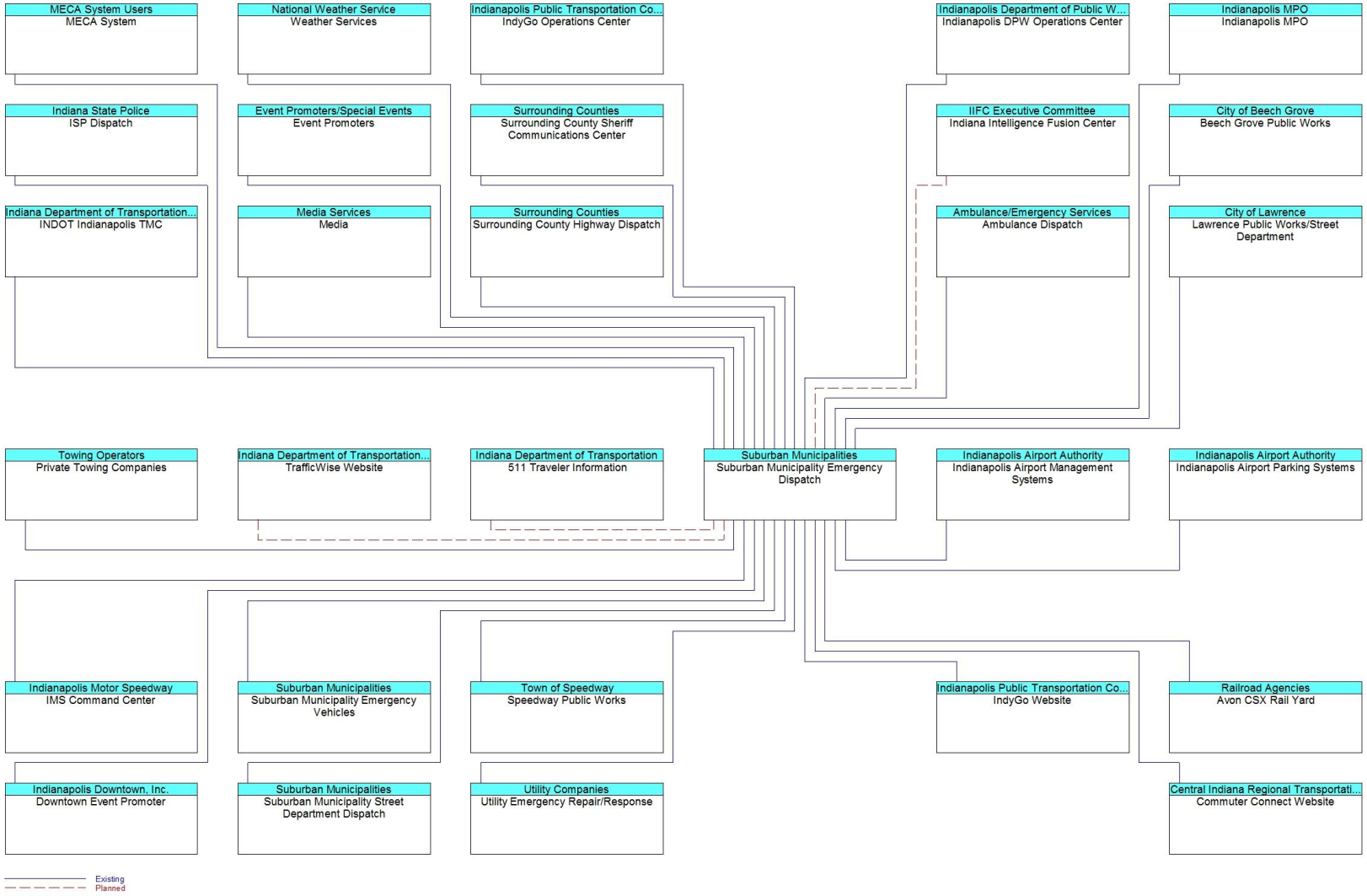
Speedway Public Safety



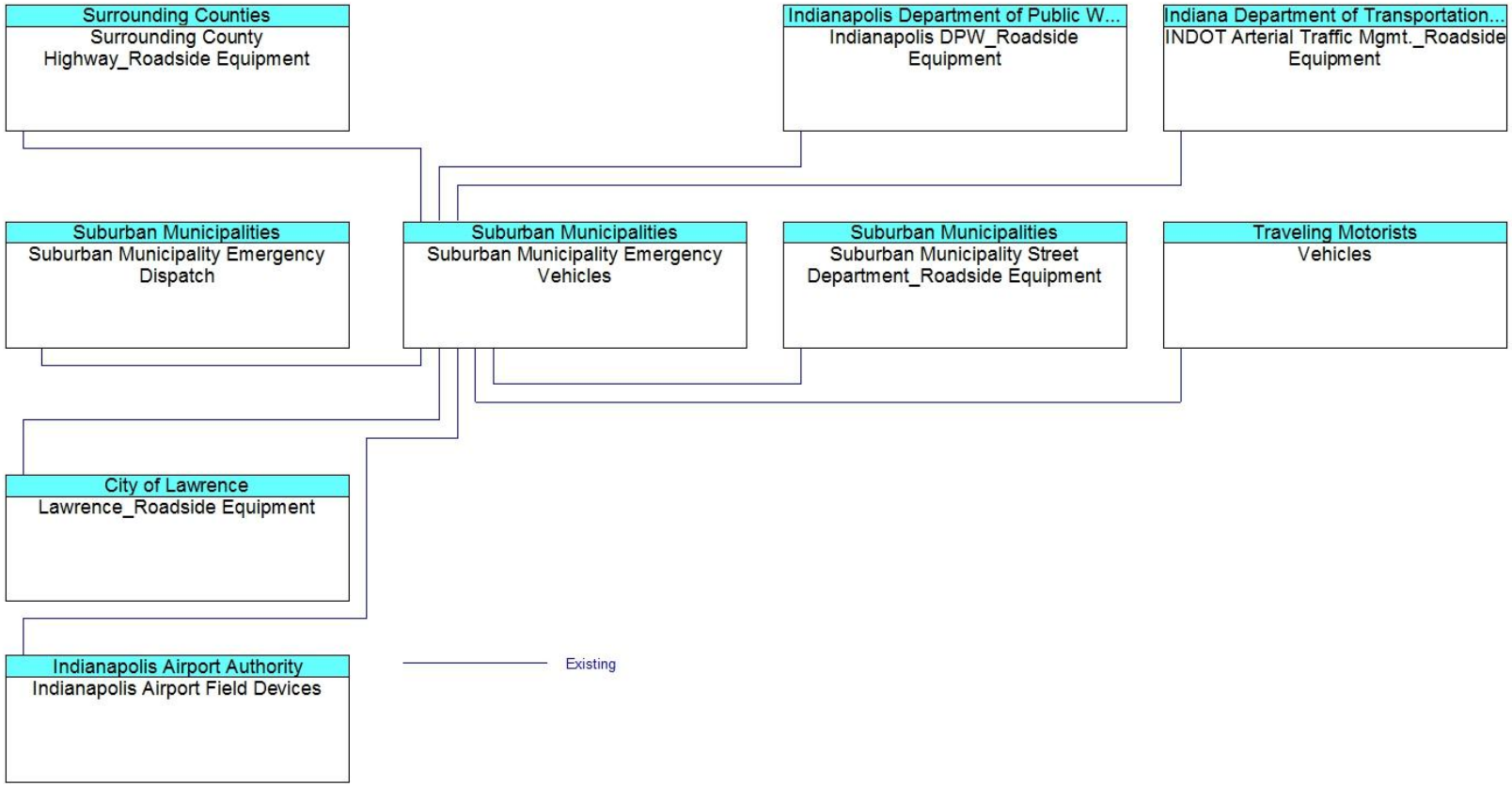
Speedway Public Works



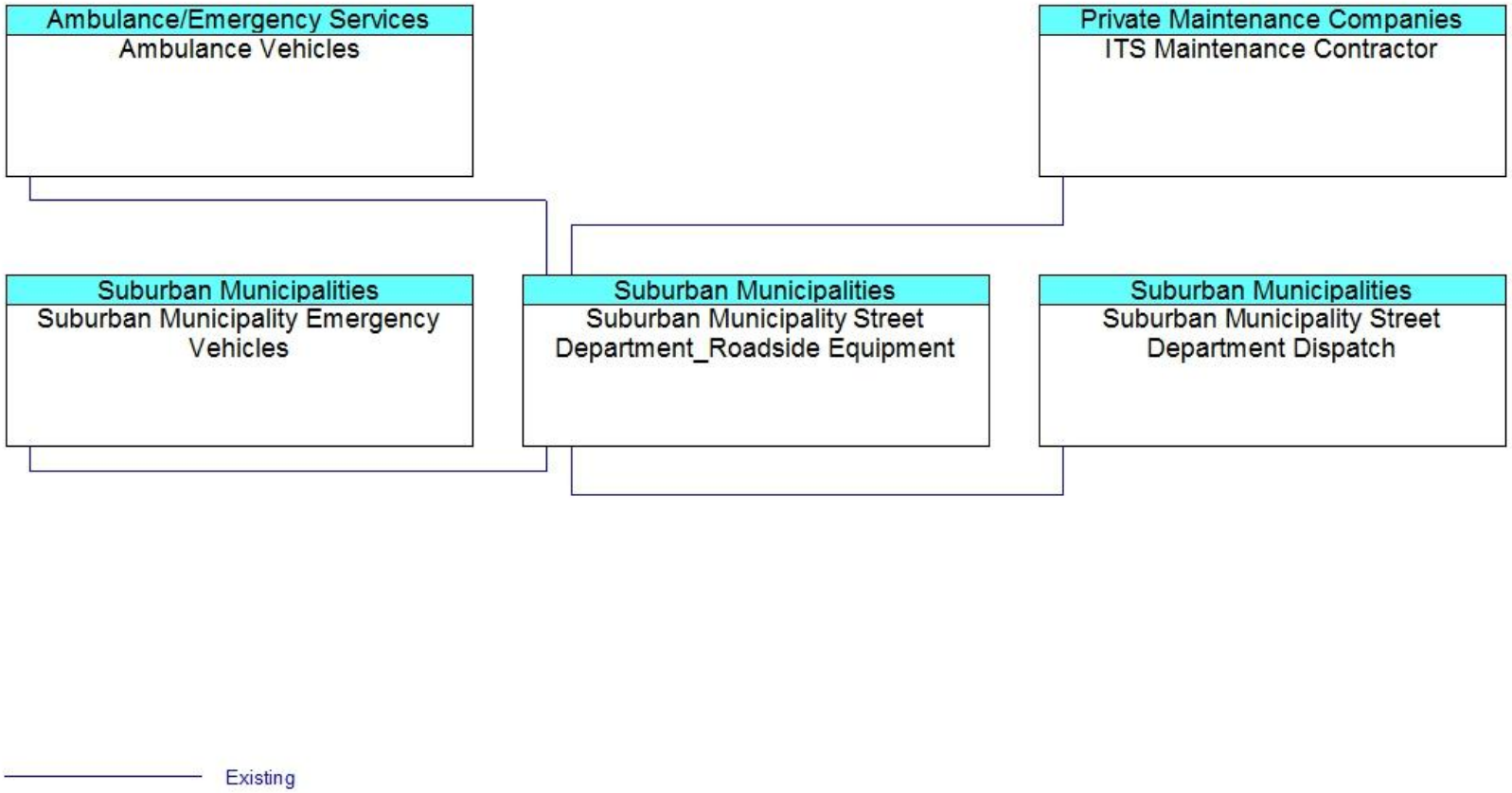
Speedway Vehicles



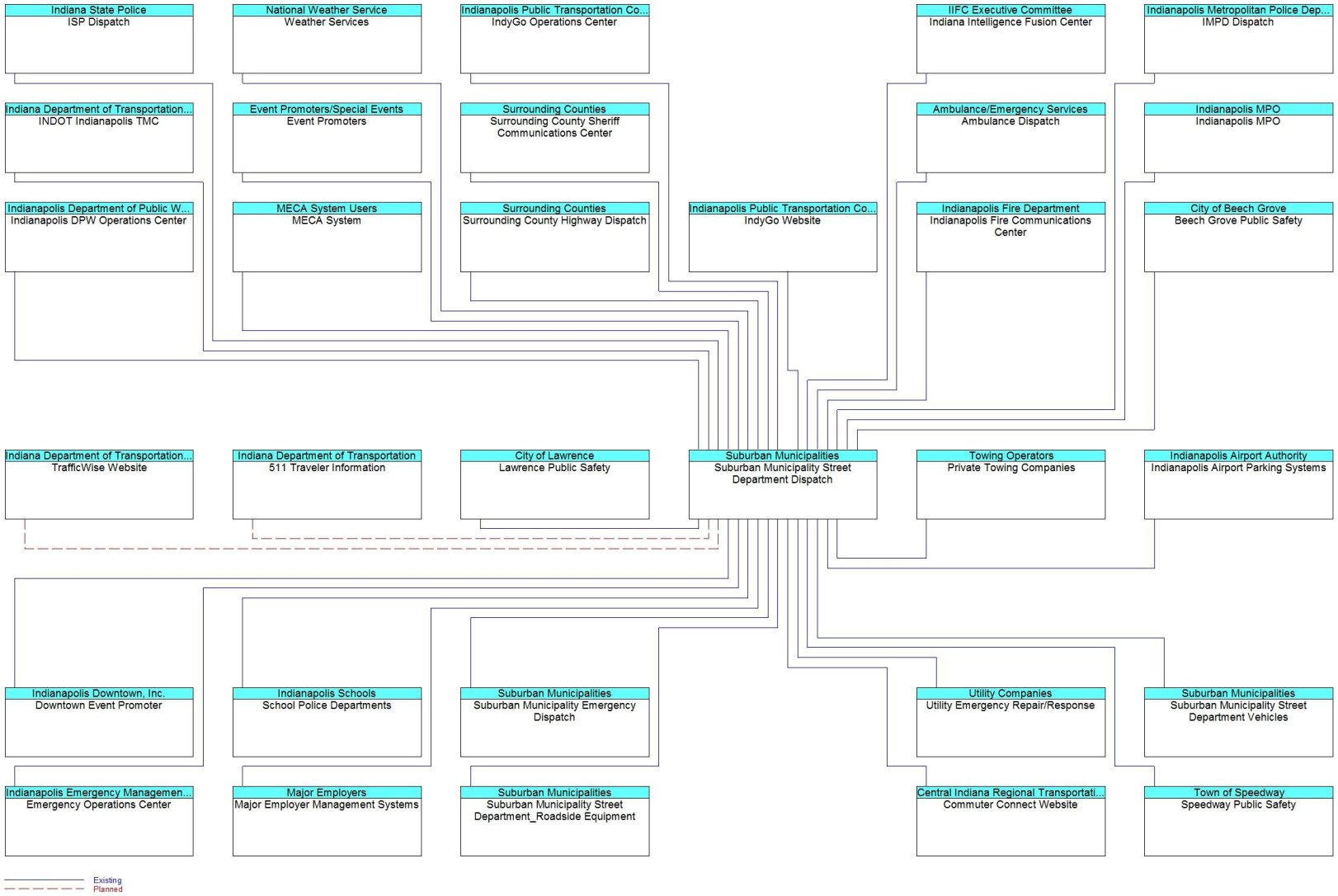
Suburban Municipality Emergency Dispatch



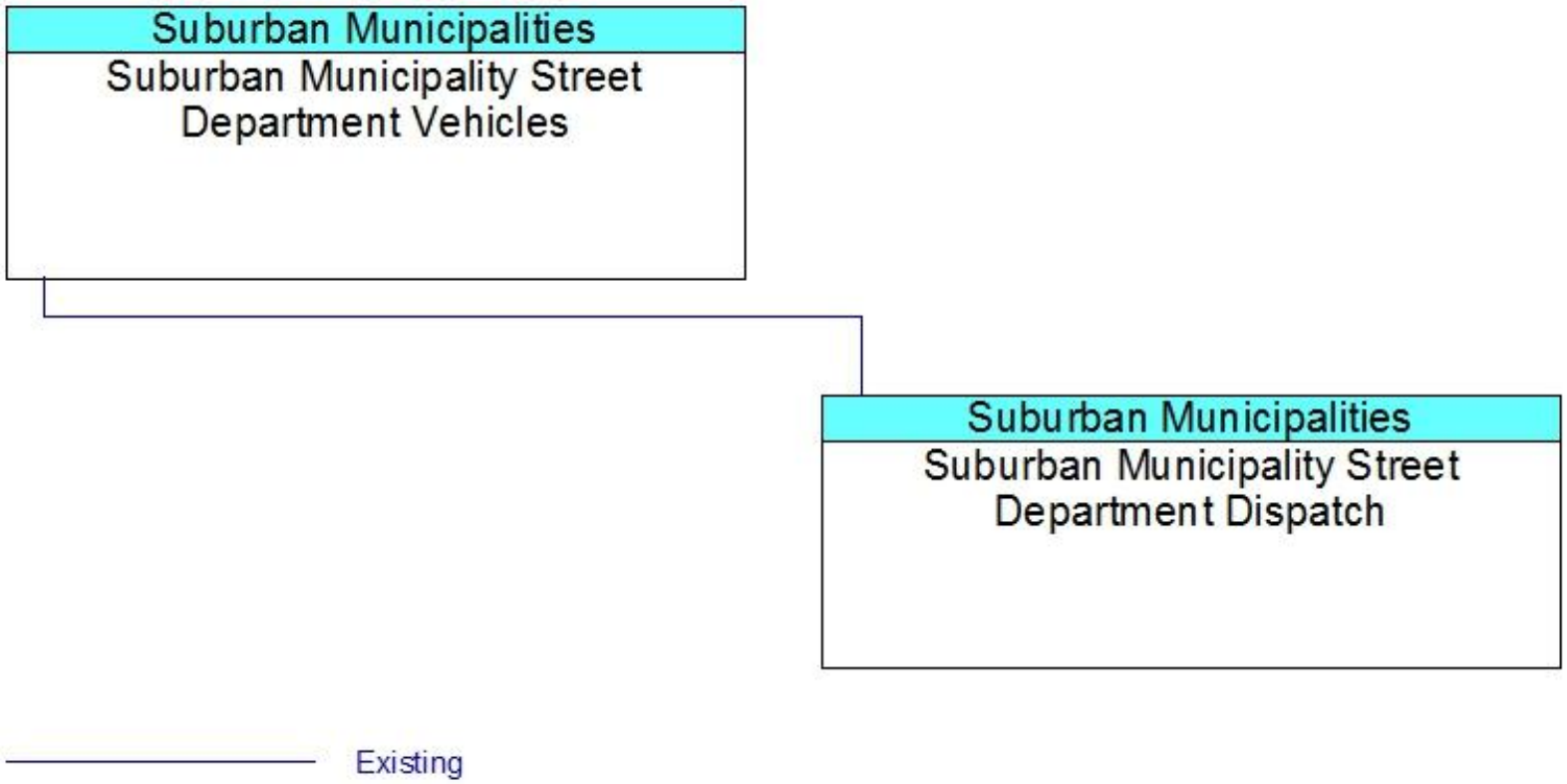
Suburban Municipality Emergency Vehicles



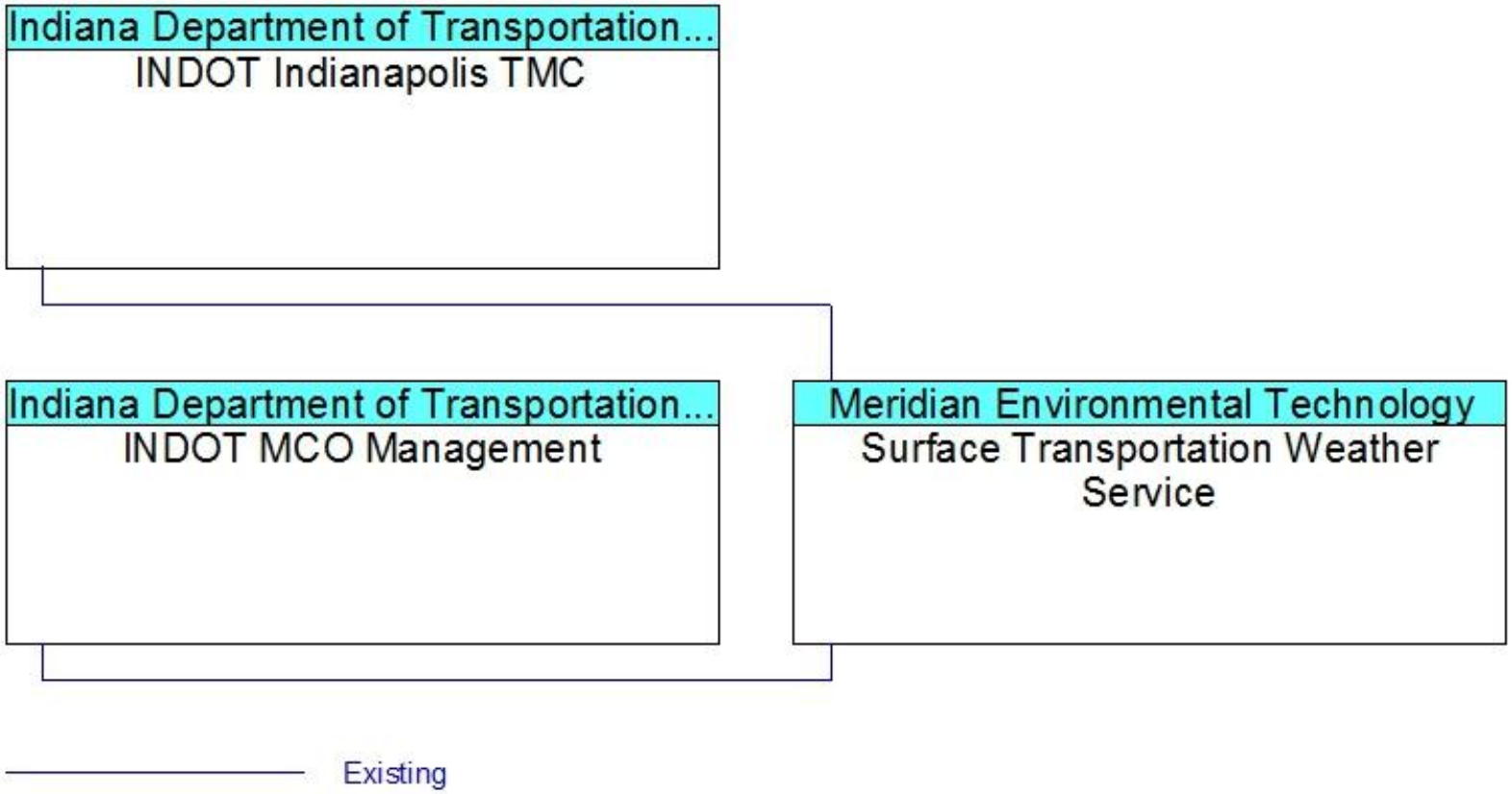
Suburban Municipality Street Department Roadside Equipment



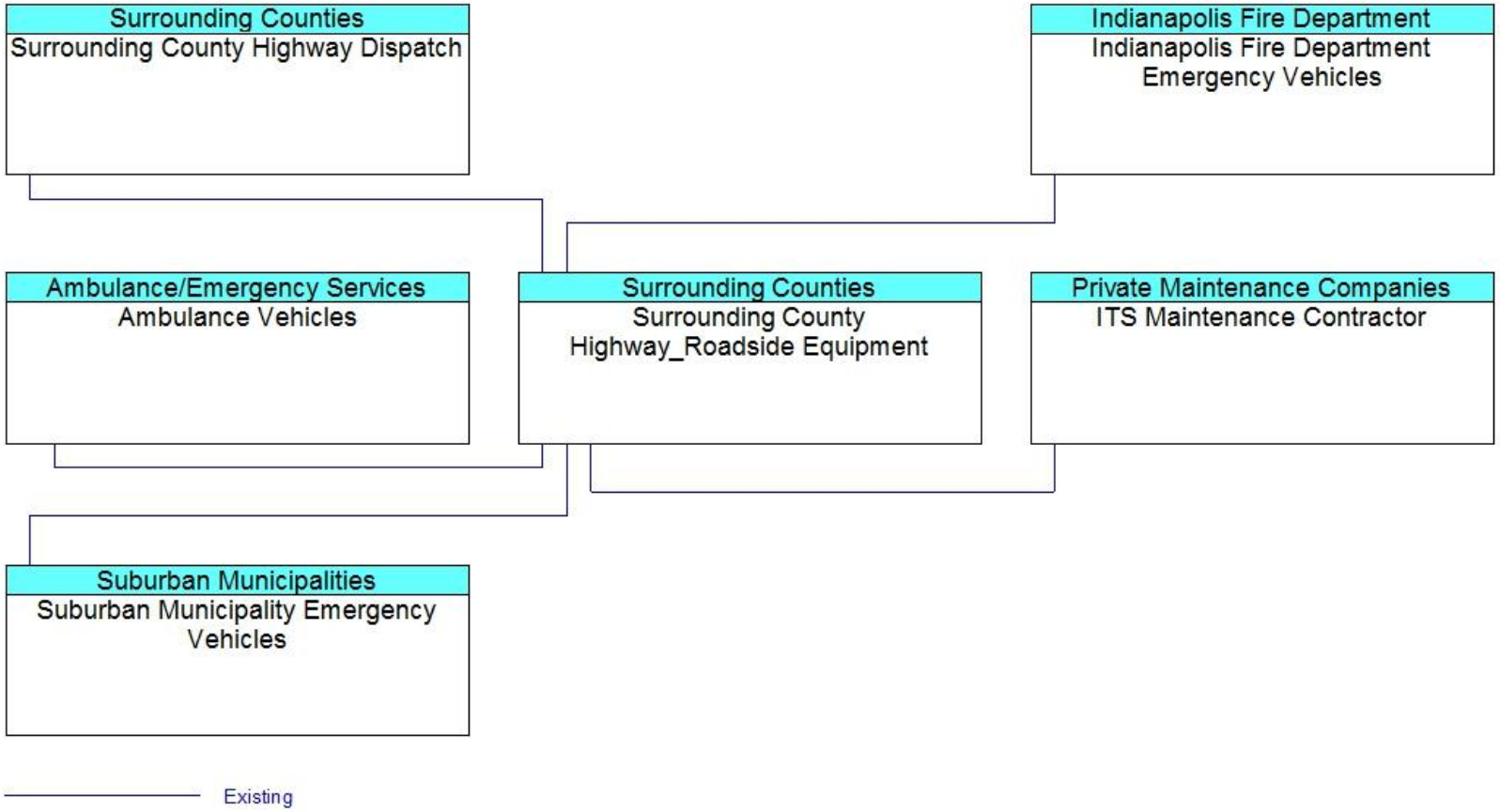
Suburban Municipality Street Department Dispatch



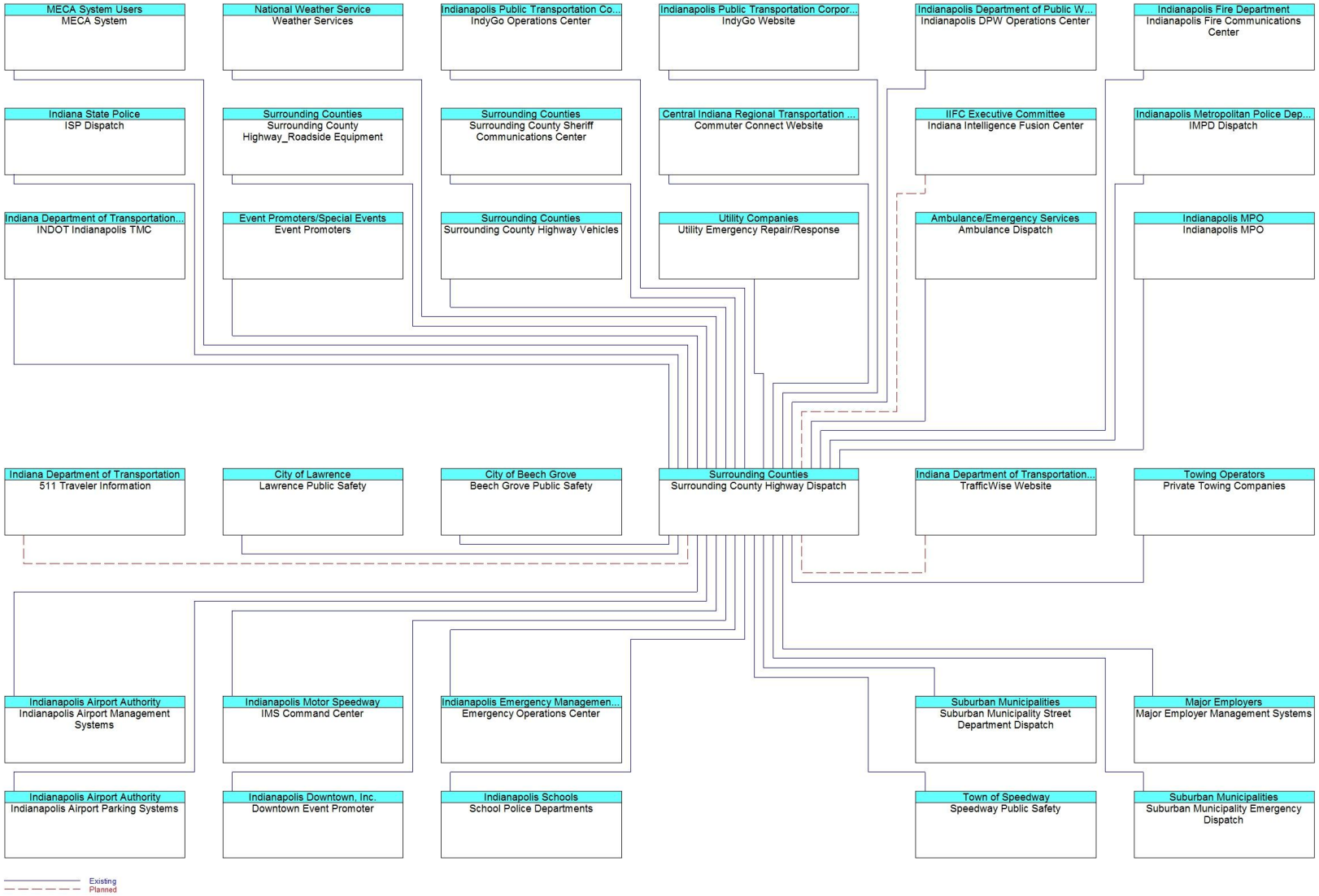
Suburban Municipality Street Department Vehicles



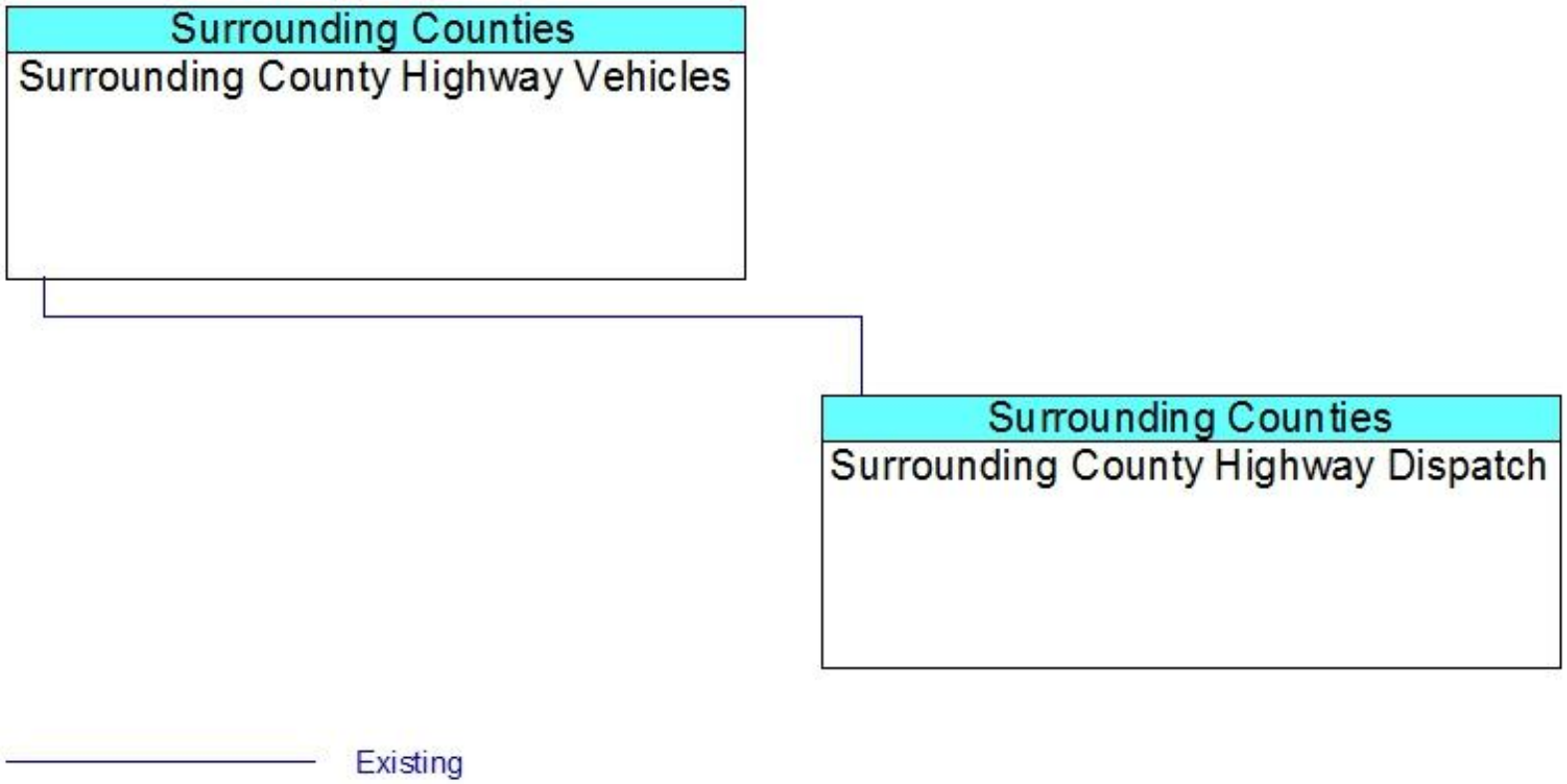
Surface Transportation Weather Service



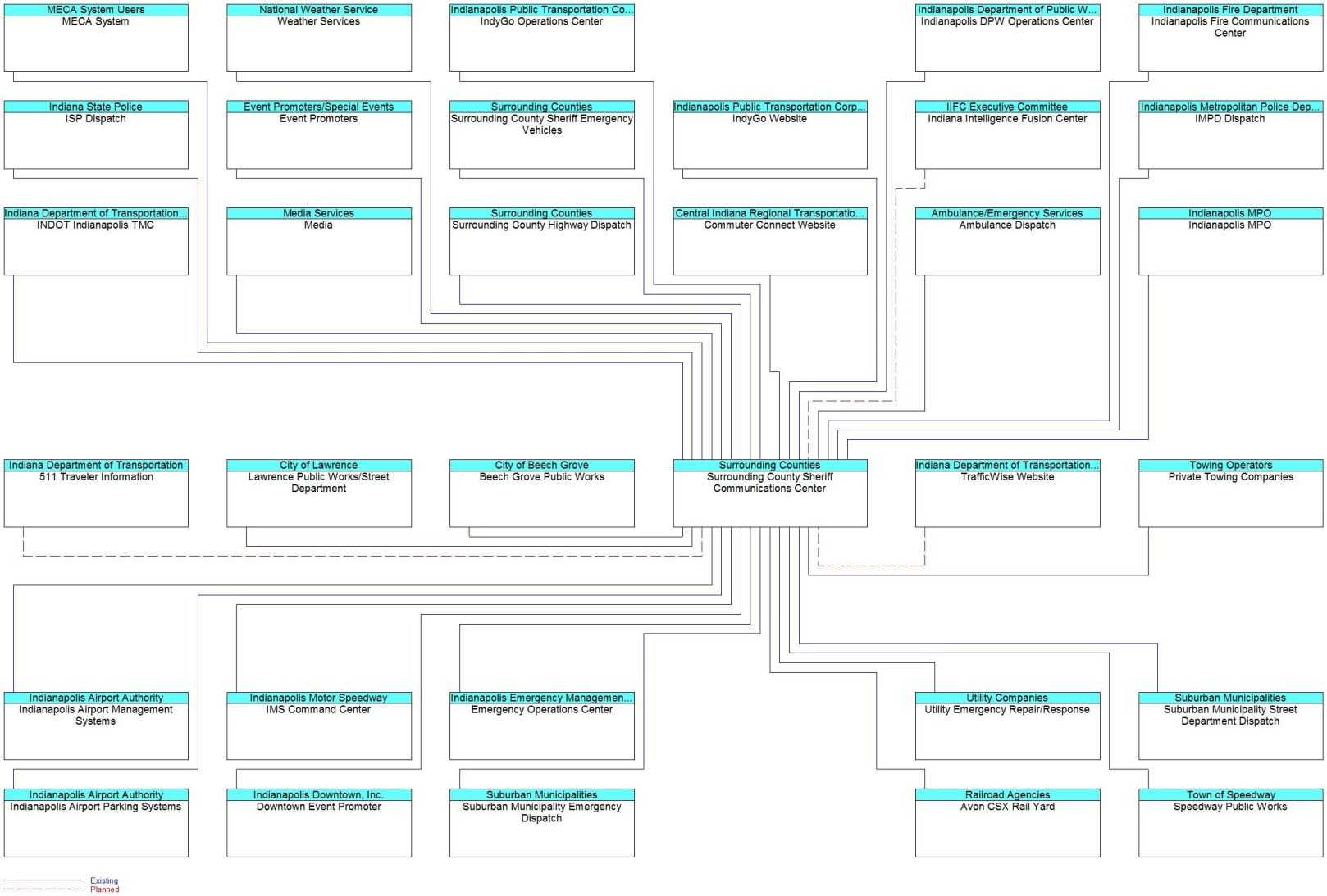
Surrounding County Highway Roadside Equipment



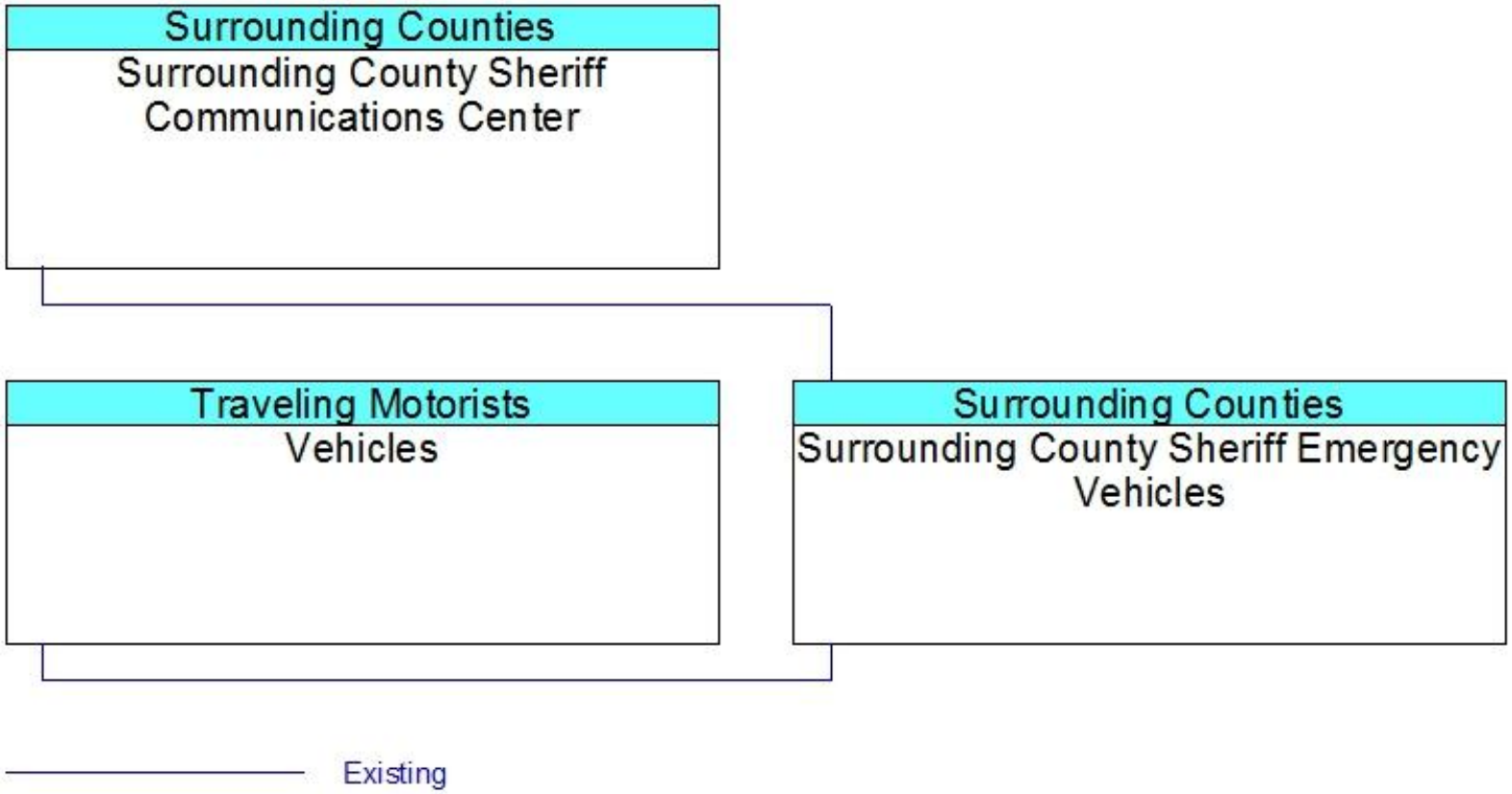
Surrounding County Highway Dispatch



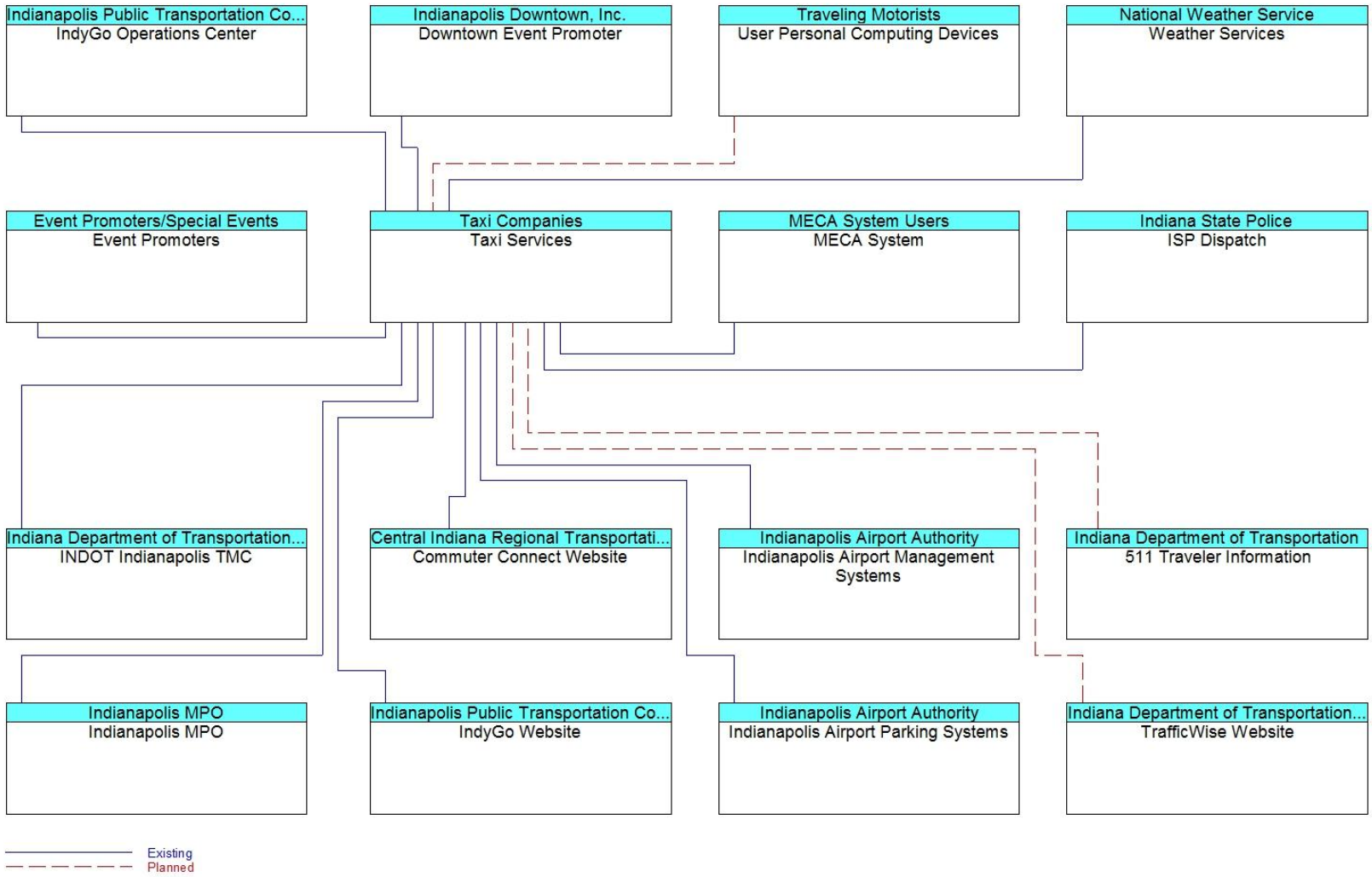
Surrounding County Highway Vehicles



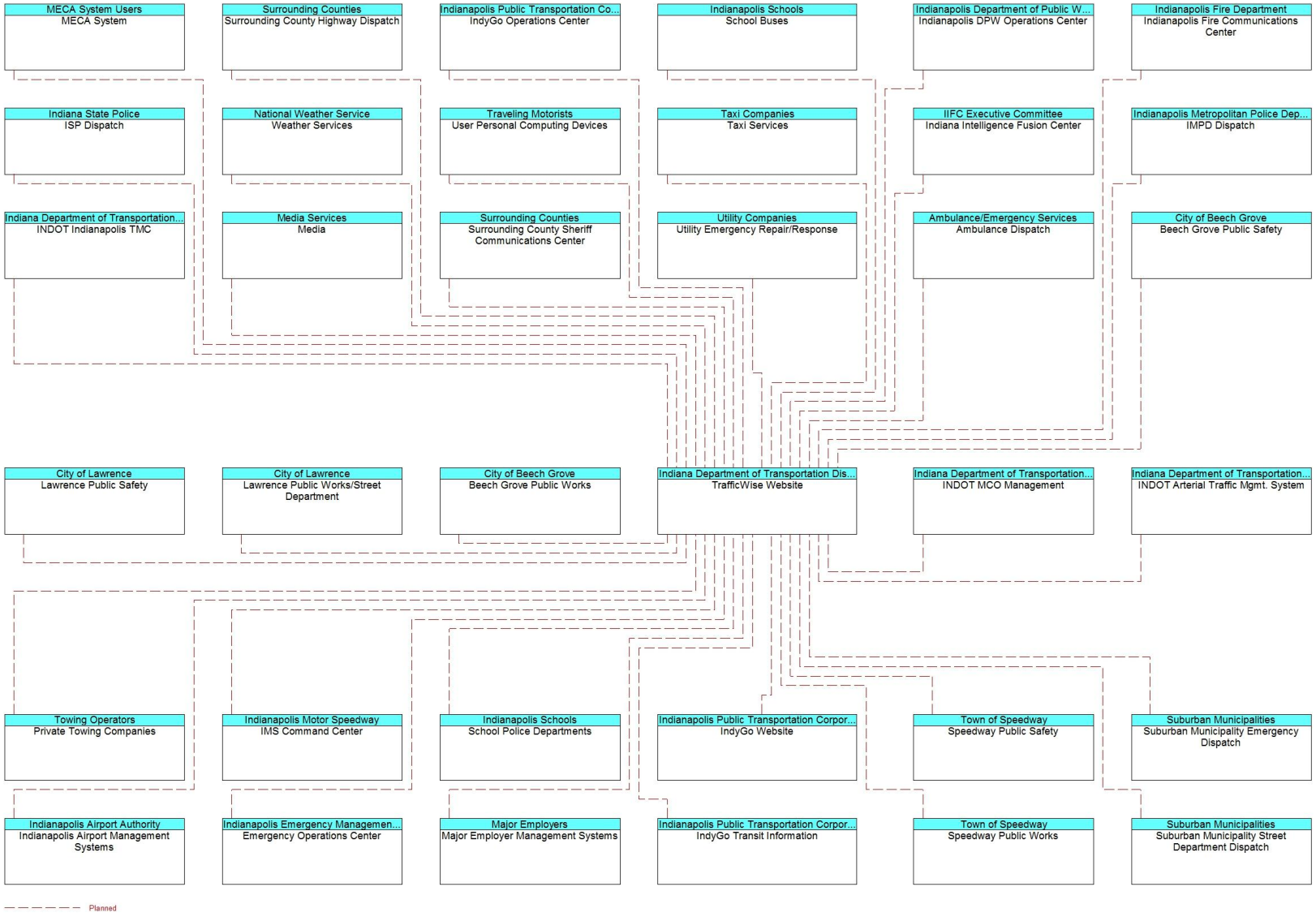
Surrounding County Sheriff Communications Center



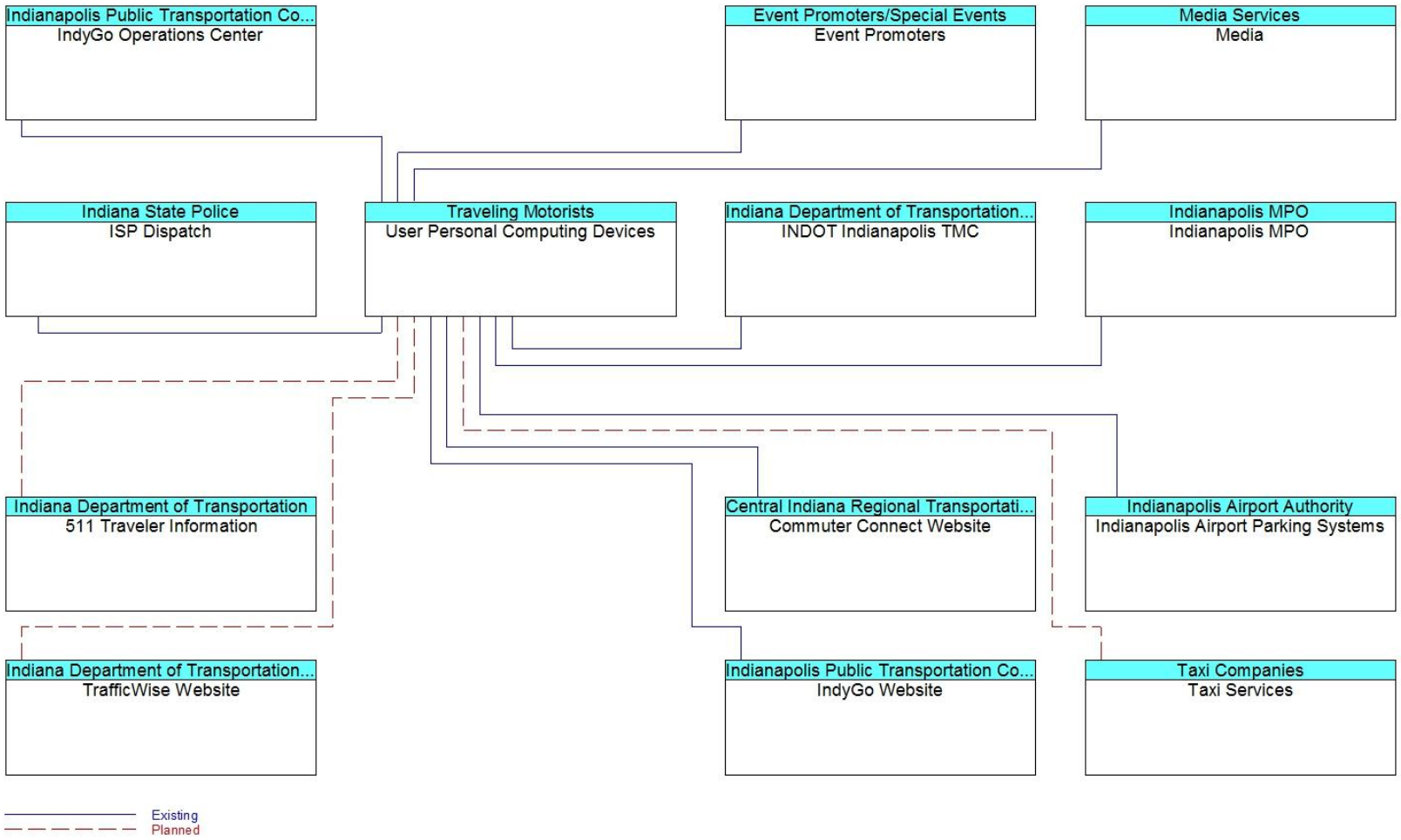
Surrounding County Sheriff Emergency Vehicles



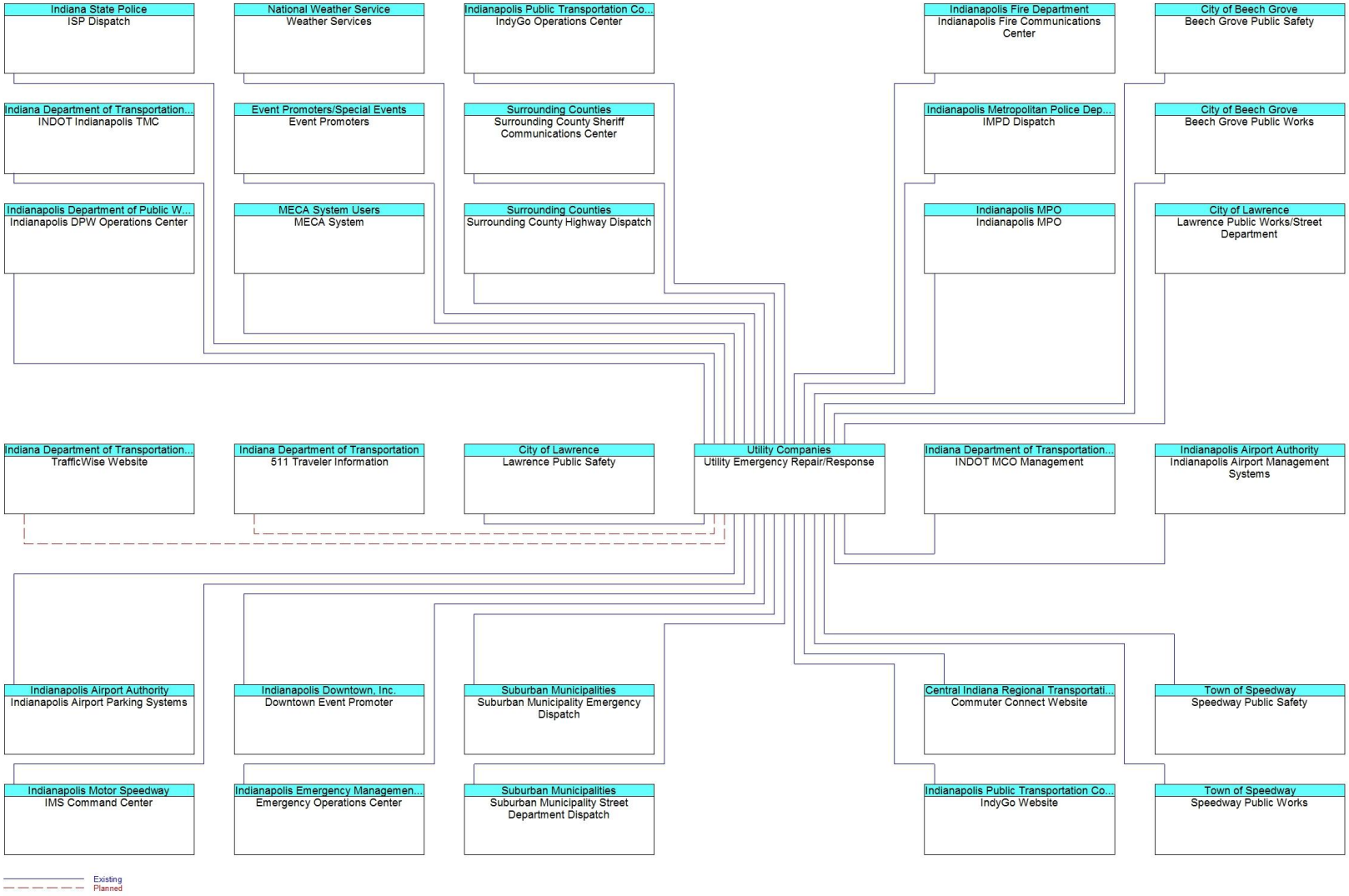
Taxi Services



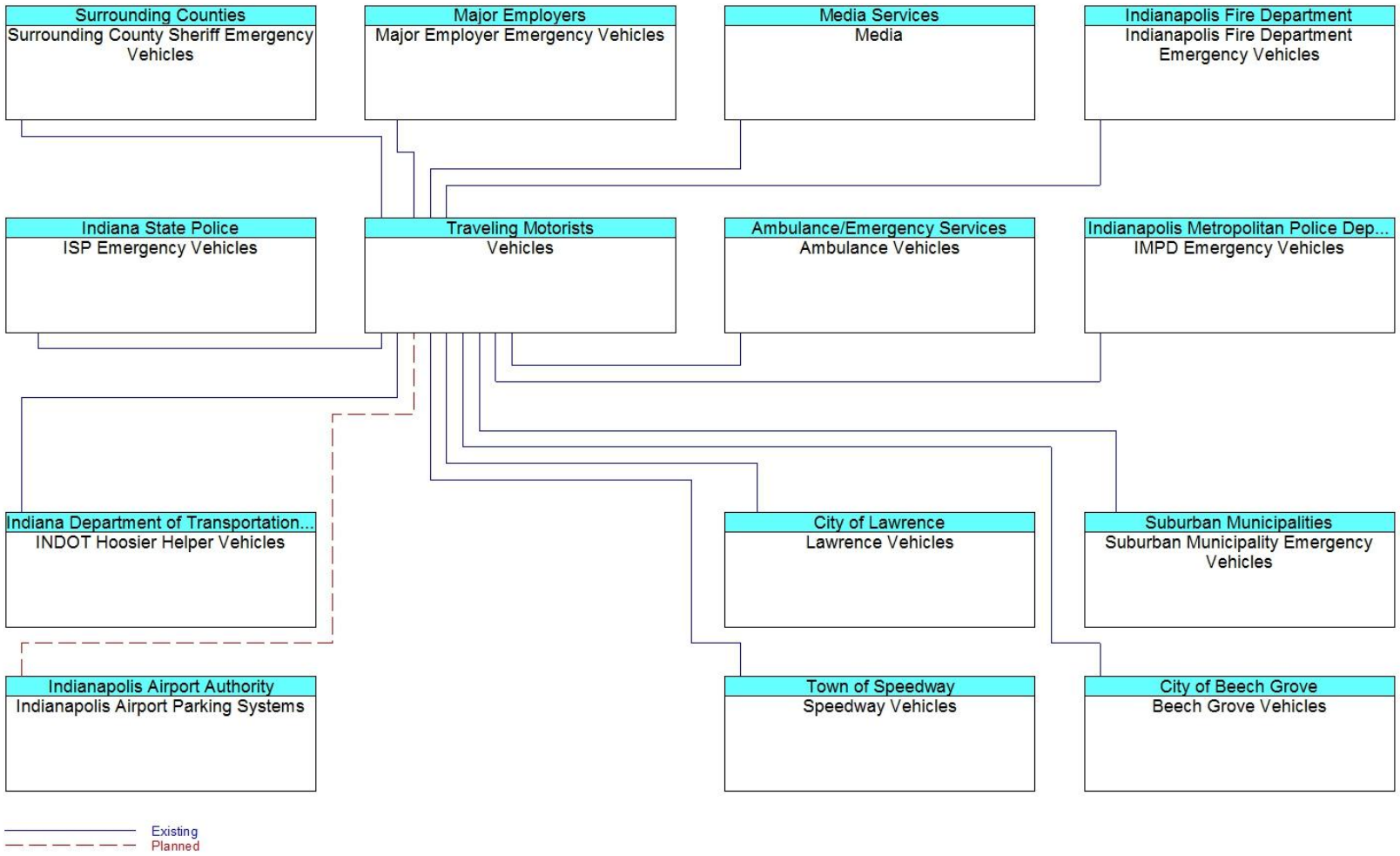
TrafficWise Website



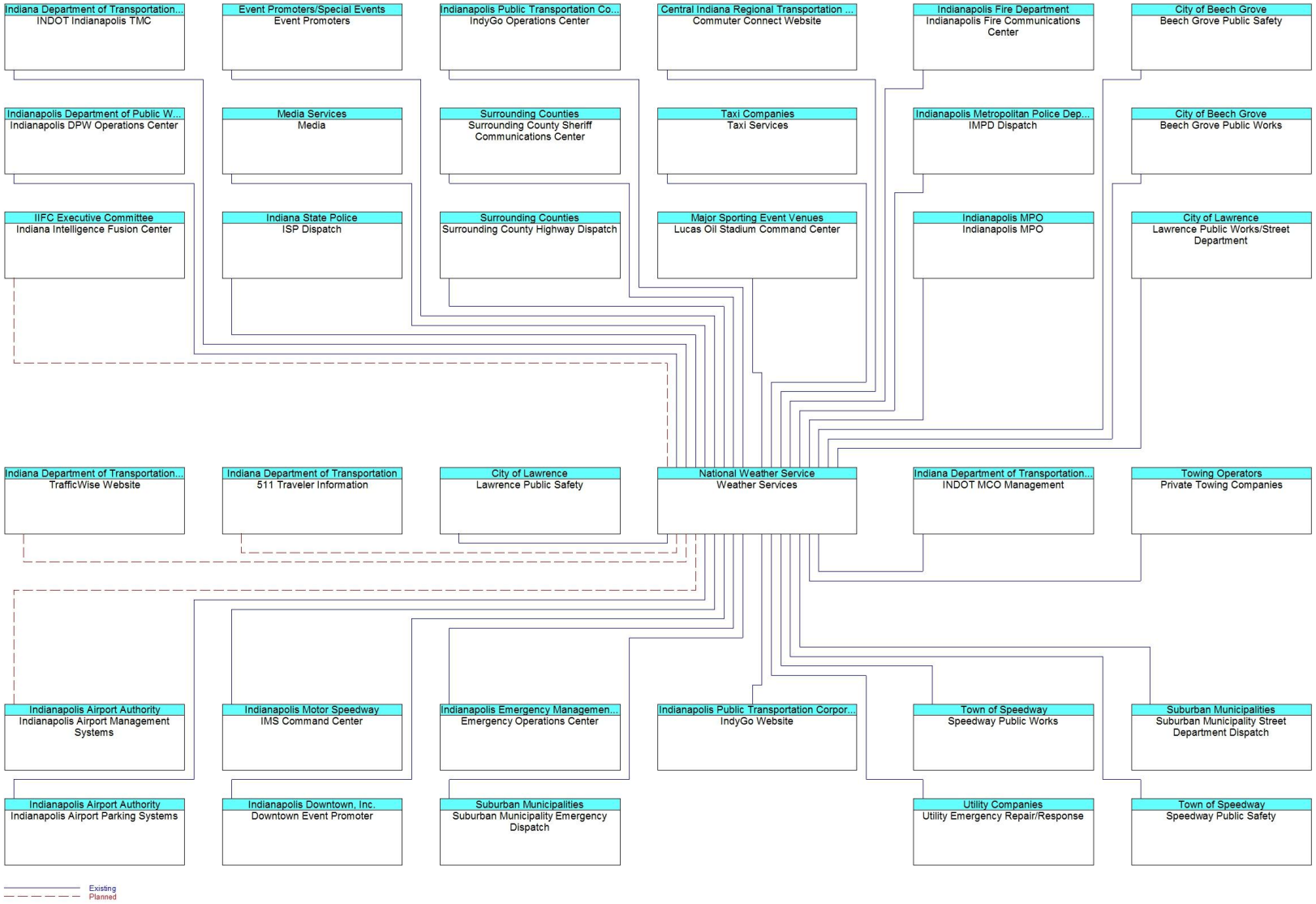
User Personal Computing Devices



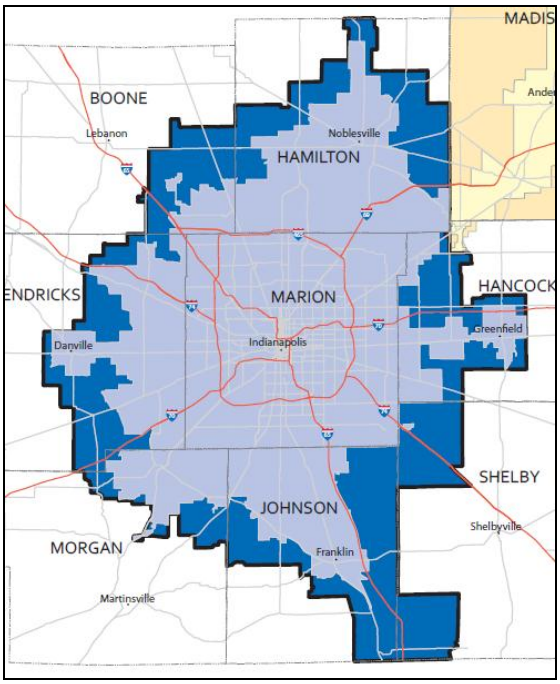
Utility Emergency Repair/Response


Surrounding Counties
Surrounding County Sheriff Emergency Vehicles
Major Employers
Major Employer Emergency Vehicles
Media Services
Media
Indianapolis Fire Department
Indianapolis Fire Department Emergency Vehicles
Indiana State Police
ISP Emergency Vehicles
Traveling Motorists
Vehicles
Ambulance/Emergency Services
Ambulance Vehicles
Indianapolis Metropolitan Police Dep...
IMPD Emergency Vehicles
Indiana Department of Transportation...
INDOT Hoosier Helper Vehicles
City of Lawrence
Lawrence Vehicles
Suburban Municipalities
Suburban Municipality Emergency Vehicles
Indianapolis Airport Authority
Indianapolis Airport Parking Systems
Town of Speedway
Speedway Vehicles
City of Beech Grove
Beech Grove Vehicles
Existing
Planned

Vehicles



Weather Services



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX H
Detailed Regional ITS Project List

November 2011

Originally Prepared By

JACOBS

Edwards and Kelcey

Updated by Justin Stuehrenberg

for

Indianapolis Metropolitan Planning Organization

This appendix contains a table with a comprehensive listing of planned ITS projects for the region from 2011-2021. Included in the table are the applicable stakeholder, the funding source, the year of planned deployment, the originating planning document, and the deployment coordination requirements for each project. A description of each column heading in the table is as follows:

- **Stakeholder**: The stakeholder responsible for implementation and maintenance of the project.
- **Project**: A general description of the project.
- **Funding Source**: Project funding source, with acronyms described as follows: STP = Surface Transportation Program, IM/IM$ = Interstate Maintenance, CMAQ = Congestion Mitigation and Air Quality, 5309 = Federal Transit Section 5309. If column is left blank, funding source is unknown.
- **Agency**: Agency responsible for project funding. If column is left blank, the responsible funding agency is unknown.
- **Timeframe**: Year(s) in which project is expected to be implemented. For the expansion of Freeway Service Patrols, the exact year of implementation is not known based on funding and freeway segment level of service criteria. For the light rail system, the project is not yet developed to the point of being able to determine an approximate implementation date.
- **Source**: Document from which project information was obtained, with acronyms described as follows:
    - IRTIP = Indianapolis Regional Transportation Improvement Plan, 2012-2016 (Updated August 17, 2011)
    - ITSSP = Indiana Department of Transportation ITS Strategic Deployment Plan
    - survey = stakeholder survey response
    - interview = stakeholder telephone interview response
- **Deployment Coordination**: Indicates how project is to be coordinated (i.e. coordinate with roadway projects in the vicinity) or if another project needs to be completed beforehand (i.e. vehicle detection must be in place prior to installation of Travel Time Signs).

Source: INDOT ITS Strategic Deployment Plan, ATMS in Indianapolis Region

0.8.4. Fiscal Year 2011 Deployments

1. I-65 from the Ohio River (Mile 0) to SR 311 (Exit 9): Full ATMS; 1/10 Mile Reference Markers from the Kentucky State Line (Mile 0) to I-265 (Mile 6)
2. I-265 from I-64 (Exit 0) to I-65 (Exit 7): Full ATMS
3. I-64 from SR 62/64 (Exit 118) to the Ohio River (Mile 124): Full ATMS
4. SR 265 (future I-265) from I-65 (Exit 7) to SR 62 (Exit 9): Full ATMS
5. *I-65 from 0.5 mile north of SR 267 (Exit 133) to 0.5 mile south of CR 100E (Lebanon Interchange) (Exit 138): Full ATMS; 2/10 Mile Reference Markers*
6. *I-465 from 0.35 mile east of US 31 / Meridian St (Exit 31) (North Leg) to 0.5 mile west of Allisonville Rd (Exit 35) (North Leg): Replace full ATMS with new full ATMS; 1/10 Mile Reference Markers*
7. *I-465 from 0.5 mile west of Allisonville Rd (North Leg) (Exit 35) to 0.5 mile west of I-69 (North Leg) (Exit 37): Replace full ATMS with new full ATMS; 1/10 Mile Reference Markers*
8. *I-465 from 75th St (North Leg) (Mile 37) to the south end of bridge over Fall Creek) (East Leg) (Mile 39): Replace full ATMS with new full ATMS; 1/10 Mile Reference Markers*
9. *US 31 Added Travel Lanes (Freeway Upgrade) from 203rd St (Mile 135) to 216th St (Mile 136): Full ATMS; 1/10 Mile Reference Markers*
10. I-69 from SR 238 (Exit 10) to SR 9/109 (Exit 26): Cameras
11. I-65 from SR 44 (Exit 90) to Whiteland Rd (CR 500N) (Exit 95): Cameras
12. I-70 from Mt. Comfort Rd (Exit 96) to SR 9 (Exit 104): Cameras
13. I-70 from SR 39 (Exit 59) to SR 267 (Exit 66): Cameras
14. I-74 from SR 267 (Exit 66) to Raceway Rd (Mile 70): Cameras
15. *SB I-465 (East Leg), Mile 38.2, south of I-69: Replace DMS*

Standalone ITS = $9,425,000
ITS with Road Projects = $5,350,000
Total Fiscal Year 2011 Deployments ESTIMATED COST = $14,775,000

0.8.5. Fiscal Year 2012 Deployments

1. *I-465 from 0.5 mile west of I-69 (North Leg) (Exit 37) to 75th St (North Leg) (Mile 37), including Interchange Modification at I-69: Replace full ATMS with new full ATMS; 1/10 Mile Reference Markers*
2. *I-65 from 0.5 mile south of CR 100E (Lebanon Interchange) (Exit 138) to US 52 (Exit 141): Full ATMS; 2/10 Mile Reference Markers*
3. *I-265 from SR 62 (Exit 9) to the New Ohio River Bridge: Full ATMS; 2/10 Mile Reference Markers*
4. *US 31 Added Travel Lanes (Freeway Upgrade) from 0.2 mile south of I-465 (North Leg) (Mile 123) to 111th St (Mile 125): Replace TTID devices with full ATMS; 1/10 Mile Reference Markers*
5. I-69 approaching SR 9/109 at Anderson (Exit 26): Cameras and vehicle detection
6. I-65 approaching SR 44 at Franklin (Exit 90): Cameras and vehicle detection
7. I-65 approaching US 52 & SR 47 at Lebanon (Exits 141 & 146): Cameras and vehicle detection
8. I-70 approaching SR 9 at Greenfield (Exit 104): Cameras and vehicle detection
9. I-70 approaching SR 39 at Monrovia (Exit 59): Cameras and vehicle detection
10. NB I-65, near Mile 3.3, south of US 31 / Lewis & Clark Pkwy: DMS
11. WB I-265, near Mile 1.9, (Green Valley Rd), east of State St: DMS
12. EB I-265, near Mile 5.1, (Jacobs Creek), west of I-65: DMS
13. WB SR 265 (future I-265), near Mile 7.5, (east of Lick Run Creek), east of I-65: DMS
14. WB I-64, near Mile 122.6, (Cherry St), south of I-265: DMS
15. *EB US 36, west of I-465 (West Leg) between Girls School Rd and High School Rd: DMS*
16. EB I-80/94 (Borman Expwy), near Mile 0.4 (west of US 41 / Calumet Ave): TTS
17. EB I-80/94 (Borman Expwy), near Mile 5.9 (Colfax Ave): TTS
18. WB I-80/94 (Borman Expwy), near Mile 13.1 (Clay St): TTS
19. WB I-94, near Mile 17.0 (east of US 20 / CSX RR): TTS
20. NB I-65, near Mile 257.3 (north of 49th Ave): TTS
21. NB I-65, near Mile 107.2 (Keystone Ave): TTS
22. NB I-465 (West Leg), near Mile 16.6 (34th St): TTS
23. NB I-465 (West Leg), near Mile 20.2 (north of Lafayette Rd): TTS
24. EB I-465 (North Leg), near Mile 25.5 (west of 96th St): TTS
25. WB I-465 (North Leg), near Mile 30.0 (west of Spring Mill Rd): TTS
26. NB I-65, near Mile 114.6 (north of Fall Creek Pkwy): TTS
27. SB I-65, near Mile 122.4 (north of 56th St): TTS

Standalone ITS = $5,300,000
ITS with Road Projects = $5,375,000
Total Fiscal Year 2012 Deployments ESTIMATED COST = $10,675,000

0.8.6. Fiscal Year 2013 Deployments

1. *I-70 from 0.6 mile east of Post Rd (Exit 91) to 0.5 mile east of Mt. Comfort Rd (Exit 96): Replace full ATMS with new full ATMS*
2. *I-69 from 0.5 mile south of I-465 (Exit 0) (75th St) to 0.5 mile south of 96th St (Exit 3): Replace full ATMS with new full ATMS*
3. *US 31 Added Travel Lanes (Freeway Upgrade) from Blackburn Ave (Mile 133) to 203rd St (Mile 135): Full ATMS; 1/10 Mile Reference Markers*
4. SB I-69, near Mile 16.9 (CR 650W), north of SR 13: DMS
5. SB I-69, near Mile 28.3 (CR 300E), north of SR 9/109: DMS
6. NB I-69, near Mile 12.4 (Cyntheanne Rd), south of SR 13: DMS
7. NB I-65, near Mile 86.4 (CR 250S), south of SR 44: DMS
8. SB I-65, near Mile 104.4 (Edgewood Ave), south of I-465 (South Leg): DMS
9. NB I-65, near Mile 131.9, south of SR 267: DMS
10. SB I-65, near Mile 148.8 (north of CR 850N), north of SR 47: DMS
11. EB I-70, near Mile 92.1, east of Post Rd: DMS
12. WB I-70, near Mile 106.1 (east of CR 400E), east of SR 9: DMS
13. EB I-70, near Mile 55.2 (east of former CR 675W), west of SR 39: DMS
14. WB I-70, near Mile 67.3, east of SR 267: DMS
15. SB SR 37, north of I-69 between 131st St and 141st St: DMS
16. EB I-70 C/D, near Mile 70.6 (east of Indianapolis International Airport interchange), west of I-465 (West Leg): DMS
17. *WB I-70, Mile 92.1, east of Post Rd: Replace DMS*

Standalone ITS	**= $5,375,000**
ITS with Road Projects	***= $4,125,000***
Total Fiscal Year 2013 Deployments ESTIMATED COST =	**$9,500,000**

0.8.7. Fiscal Year 2014 Deployments

1. I-94 from I-90 (Indiana Toll Road) (Exit 16) to SR 49 (Exit 26): Full ATMS; 2/10 Mile Reference Markers
2. I-65 from US 231 (Exit 247) to US 30 (Exit 253): Full ATMS; 1/10 Mile Reference Markers (from US 30 to I-80/94)
3. I-65 from I-80/94 (Borman Expwy) (Mile 260) to I-90 (Indiana Toll Road (Exit 262): Full ATMS
4. SR 912 (Cline Ave) from I-90 (W jct) (Exit 0) to I-80/94 (Borman Expwy) (Exit 10): Full ATMS; 2/10 Mile Reference Markers
5. *I-70 from 0.5 mile east of Mt. Comfort Rd (Exit 96) to 0.8 mile east of SR 9 (Exit 104): Replace TTID devices with new full ATMS*
6. *I-64 from I-265 (Exit 121) to SR 111 / Spring St (Exit 123): Replace full ATMS with new full ATMS*
7. *US 31 Added Travel Lanes (Freeway Upgrade) from 111th St (Mile 125) to 0.75 mile north of 131st St (Mile 127): Replace TTID devices with new full ATMS; 1/10 Mile Reference Markers*
8. *I-65 Ohio River Bridge (Mile 0) and Indiana approach: Replace full ATMS deployment with new full ATMS*
9. *NB US 31, south of I-465 (South Leg) between Banta Rd and Edgewood Ave: DMS*
10. *SB US 31(Freeway), north of I-465 (North Leg), between 106th St and 116th St: DMS*

Standalone ITS	**= $8,700,000**
ITS with Road Projects	***= $6,050,000***
Total Fiscal Year 2014 Deployments ESTIMATED COST =	**$14,750,000**

0.8.8. Fiscal Year 2015 Deployments

1. *I-65 from 0.5 mile south of Southport Rd (Exit 103) to 0.25 mile south of I-465 (South Leg) (Exit 106): Replace full ATMS with new full ATMS*
2. *US 31 Added Travel Lanes (Freeway Upgrade) from 0.75 mile north of 131st St (Mile 127) to 156th St (Mile 130): Replace TTID devices with new full ATMS; 1/10 Mile Reference Markers*
3. I-65 from south of SR 2 (Exit 240) to US 231 (Exit 247): Cameras and vehicle detection
4. I-94 from SR 49 (Exit 26) to Michigan State Line: Cameras and vehicle detection
5. NB I-65, near Mile 236.0 (½ mile north of 217th Ave), south of SR 2: DMS
6. SB I-65, near Mile 250.3 (101st Ave), north of US 231 (Exit 247) and future 109th Ave (future Exit 249): DMS
7. EB I-94, near Mile 20.9 (east of former Salt Creek Rd), west of US 20: DMS
8. WB I-94, near Mile 28.1 (Brummitt Rd (CR 300E)), east of SR 49: DMS
9. WB I-94, near Mile 44.4 (½ mile west of CR 1000N), east of US 20/35: DMS
10. EB I-94, near Mile 31.8 (east of the former crossing of Porter CR 600E), west of US 421: DMS
11. SB SR 912 (Cline Ave), near Mile 5.9 (US 12 (Columbus Dr / Industrial Hwy), north of I-80/94 (Borman Expwy) and I-90 (Indiana Toll Road): DMS
12. NB SR 912 (Cline Ave), near Mile 11.3, (north of Highway Ave / 35th Ave), south of I-80/94 (Borman Expwy): DMS
13. EB US 30, near Mile 9.3 (0.7 mile east of SR 55), west of I-65: DMS
14. WB I-465 (South Leg), near Mile 6.2 (White River): TTS
15. NB I-465 (West Leg), near Mile 11.4 (south of US 40 / Washington St): TTS
16. SB I-465 (West Leg), near Mile 12.3 (north of US 40 / Washington St): TTS
17. SB I-465 (West Leg), near Mile 18.2 (46th St): TTS
18. SB I-465 (West Leg), near Mile 23.2 (86th St): TTS
19. WB I-465 (North Leg), near Mile 35.4 (Allisonville Rd): TTS
20. NB I-465 (East Leg), near Mile 40.8 (46th St): TTS
21. EB I-465 (North Leg), near Mile 32.4 (Westfield Blvd): TTS

Standalone ITS	**= $6,800,000**
ITS with Road Projects	***= $2,475,000***
Total Fiscal Year 2015 Deployments ESTIMATED COST =	**$9,275,000**

0.8.9. Fiscal Year 2016 Deployments

1. *I-65 from 0.5 mile south of County Line Rd (Exit 101) to 0.5 mile south of Southport Rd (Exit 103): Replace full ATMS with new full ATMS*
2. *I-65 from 0.5 mile south of Greenwood Rd (Main St) (Exit 99) to 0.5 mile south of County Line Rd (Exit 101): Replace full ATMS with new full ATMS*
3. *US 31 Added Travel Lanes (Freeway Upgrade) from 156th St (Mile 130) to 0.2 mile north of 169th St (Mile 132): Replace TTID devices with new full ATMS; 1/10 Mile Reference Markers*
4. *SB US 31(Freeway), north of I-465 (North Leg), between 161st St and SR 32: DMS*

Standalone ITS = $ 0
ITS with Road Projects = $2,900,000
Total Fiscal Year 2016 Deployments ESTIMATED COST = $2,900,000

0.8.10. Fiscal Year 2017 Deployments

1. *I-70 from I-65 (North Split) (Exit 83) to I-465 (East Leg) (Exit 90): Add to and replace devices as needed in the full ATMS*
2. *US 31 Added Travel Lanes (Freeway Upgrade) from 0.2 mile north of 169th St (Mile 132) to Blackburn Ave (Mile 133): Replace TTID devices with new full ATMS; 1/10 Mile Reference Markers*

Standalone ITS = $ 0
ITS with Road Projects = $1,175,000
Total Fiscal Year 2017 Deployments ESTIMATED COST = $1,175,000

0.8.11. Fiscal Year 2018 Deployments

Road Project Budget

1. *I-465 from 0.5 mile east of US 421 / Michigan Rd (North Leg) (Mile 27) to 0.65 mile west of US 31 / Meridian St (North Leg) (Exit 31): Replace full ATMS with new full ATMS*
2. *SB US 31 (Freeway), near Mile 135.0 (south of SR 38): TTS*

Standalone ITS = $ 0
ITS with Road Projects = $1,350,000
Total Fiscal Year 2018 Deployments ESTIMATED COST = $1,350,000

0.8.12. Fiscal Year 2019 Deployments

1. *I-465 from 0.65 mile north of 86th St (West Leg) (Exit 23) to 0.5 mile east of US 421 / Michigan Rd (North Leg) (Exit 27): Replace full ATMS with new full ATMS*
2. *I-69 from 9.0 miles south of I-465 (South Leg) (north of SR 144) (Mile 136 (SR 37)) to I-465 (South Leg) (Mile 145 (SR 37)): Full ATMS; 1/10 or 2/10 Mile (as appropriate) Reference Markers*

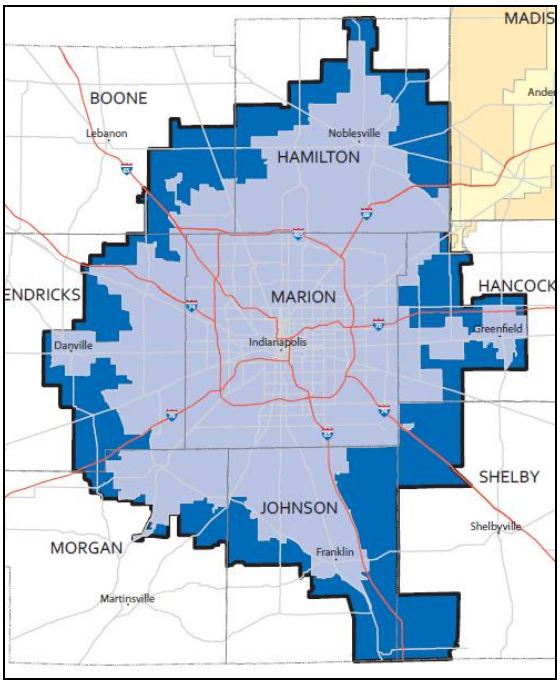
Standalone ITS	**= $ 0**
ITS with Road Projects	***= $5,775,000***
Total Fiscal Year 2019 Deployments ESTIMATED COST =	**$5,775,000**

0.8.13. Fiscal Year 2020 Deployments

1. *NB I-69, south of I-465 (South Leg), between County Line Rd and Southport Rd: DMS*
2. *SB I-69, south of I-465 (South Leg), between I-465 and Southport Rd: DMS*
3. *NB I-69 approaching SR 144 at Waverly: DMS*
4. *NB I-69, south of Smith Valley Rd: TTS*

Standalone ITS	**= $ 0**
ITS with Road Projects	***= $1,350,000***
Total Fiscal Year 2020 Deployments ESTIMATED COST =	**$1,350,000**

Source: IndyGo
2012_Replace/Upgrade Facility Phone System,
2012/2013_IT Disaster Recovery solution for IT Systems and Infrastructure (voice & data),
2013/2014_Upgrade Fleet Management system/ERP System,
2012/2013_Upgrade Fixed Route Scheduling Software,
2016_Upgrade/Replace On-board surveillance system,
2012-2014_AVL Enhancements including sharing "Real Time" AVL information, Traffic Signal Priority,
2012-2014_Interactive Voice Response solution (Phone, Web, Text, etc.),
2012/2013_Upgrade Facility Paging System,
2014/2015_Inside Vehicle Tracking



Indianapolis Metropolitan Planning Area Regional Intelligent Transportation System (ITS) Architecture

FINAL APPENDIX I
Submitted Change Request Forms

November 2011

Originally Prepared By

JACOBS

Edwards and Kelcey

Updated by Justin Stuehrenberg

for

Indianapolis Metropolitan Planning Organization

Indianapolis Regional ITS Architecture Change Request Form

Change Identification:	IndyGo	Request Date:	August 15, 2011
Change Description (describe affected architecture elements):	2008 – Upgraded Fixed Route voice radios to MECA's System 2 800MHz digital system, 2009 – Upgraded Paratransit voice radios to MECA's System 2 800MHz digital system, 2009 – CAD/AVL Installed, 2009 – Paratransit scheduling software upgraded/installed, 2010 – Online Trip Planner installed, 2010 – Upgraded facility surveillance and access software, 2011 – Upgraded IndyGo.net website.		
Rationale for Change:	Provide implementation dates for completed IndyGo ITS projects.		
Request Originator Contact Information:	Name:	Brent Humphress, Wayne Oteham, Annette Darrow	
	Agency:	IndyGo	
	Address:	1501W. Washington St., Indianapolis, IN 46222	
	Telephone:	(317) 614-9319	
	Fax:	NA	
	Email:	bhumphress@indygo.net	
To be filled out by Architecture Maintainer			
Change Number*:			
Change Decision:	Accept	Reject	Defer
Decision Comments:			
Decision Date:			
Architecture Components Affected:			
Change Type:	Minor	Major	

* XX-YY, where XX = year and YY = chronological value, e.g., the first change request of 2006 would be '06-01'

Indianapolis Regional ITS Architecture Change Request Form

Change Identification:	IndyGo	Request Date:	August 19, 2011
Change Description (describe affected architecture elements):	2012_Replace/Upgrade Facility Phone System, 2012/2013_IT Disaster Recovery solution for IT Systems and Infrastructure (voice & data), 2013/2014_Upgrade Fleet Management system/ERP System, 2012/2013_Upgrade Fixed Route Scheduling Software, 2016_Upgrade/Replace On-board surveillance system, 2012-2014_AVL Enhancements including sharing "Real Time" AVL information, Traffic Signal Priority, 2012-2014_Interactive Voice Response solution (Phone, Web, Text, etc.), 2012/2013_Upgrade Facility Paging System, 2014/2015_Inside Vehicle Tracking		
Rationale for Change:	Provide list of New/Future IndyGo ITS Projects that need to be added to the ITS Architecture, and their estimated implementation year.		
Request Originator Contact Information:	Name:	Brent Humphress, Wayne Oteham, Annette Darrow	
	Agency:	IndyGo	
	Address:	1501W. Washington St., Indianapolis, IN 46222	
	Telephone:	(317) 614-9319	
	Fax:	NA	
	Email:	bhumphress@indygo.net	
To be filled out by Architecture Maintainer			
Change Number*:			
Change Decision:	Accept	Reject	Defer
Decision Comments:			
Decision Date:			
Architecture Components Affected:			
Change Type:	Minor	Major	

* XX-YY, where XX = year and YY = chronological value, e.g., the first change request of 2006 would be '06-01'

Indianapolis Regional ITS Architecture Change Request Form

Change Identification:		Request Date:	9-1-11
Change Description (describe affected architecture elements):	Change all 511 references from "Planned" to "Existing" in entire document		
Rationale for Change:	511 is now available via most wireless carriers		
Request Originator Contact Information:	Name:	Steven Wuertz	
	Agency:	INDOT	
	Address:	INDOT Indianapolis TMC 8620 East 21st Street Indianapolis, IN 46219	
	Telephone:	317-899-8615	
	Fax:	317-898-0897	
	Email:	swuertz@indot.in.gov	
To be filled out by Architecture Maintainer			
Change Number*:			
Change Decision:	Accept	Reject	Defer
Decision Comments:			
Decision Date:			
Architecture Components Affected:			
Change Type:	Minor	Major	

* XX-YY, where XX = year and YY = chronological value, e.g., the first change request of 2006 would be '06-01'