

Wuhan Transport Infrastructure Decision Support Platform Implementation Challenges

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Presentation Outline

- Challenges
- Implementation Issues
- Conclusions

Challenges

Extensive Development Goals

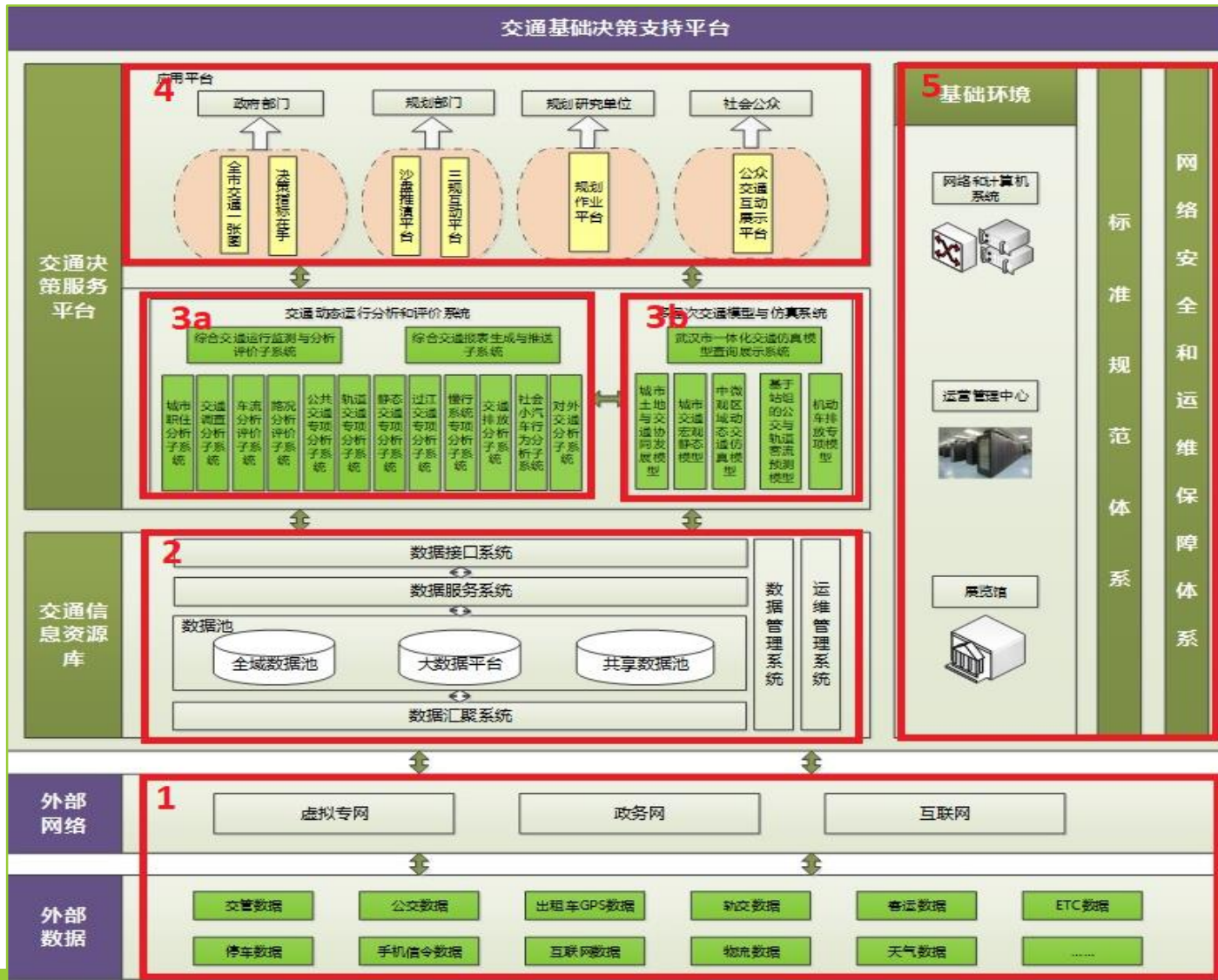
- Variety of transport decisions
 - Policy/planning/project implementation/operation
 - Short-range/mid-range/long-range
 - Regionwide/corridor-wide/site-based
- Targeted platform users
 - Government officials for decision making
 - Planning agencies for regional/project planning exercises
 - Transport planner/modelers for technical analyses
 - General public for information dissemination/public participation

Challenges

Broad Scope of Platform Functionalities

- Information and data depository system
- Monitoring/evaluation system of current conditions
- Forecasting/planning for development scenarios
 - Variety of transport forecasting and traffic simulation models
 - Transport planning/operation analyses
- Specific platform application services and products
 - Unified transport map system
 - Quick-response scenario simulation/animation components
 - Unified land use/transport planning platform
 - Transport development exhibition platform

Platform Architecture



1. External data sources & communication network
2. Data depository system
- 3a. Transport operation monitoring/evaluation system
- 3b. Integrated transport simulation model system
4. Application and service platform
5. System integration

Challenges

Multi-Discipline Technical Skills

- Urban and transport planning
- Traffic operation analysis
- Transport modeling and forecasting
- Database system development and operation
- Information and communication technology
- Information system integration
- Data science (for big-data technology)

Challenges

Lack of Prior Experience

- Implementation
 - Procurement
 - Qualification of consultant teams
 - Project management
- Operation
 - Authority of platform operator
 - Inter-agency cooperation
 - Data sharing

Implementation Issues - Institutional

- Authority of platform operation agency (*Wuhan Transport Development and Strategy Research Institute*)
- Stake-holding agencies/entities
- Operational cooperation
- Data sharing agreement

Implementation Issues - Technologies

- State-of-art vs. state-of-practice technical approach
- Pioneer vs pragmatic technologies
- Real-time vs. off-line interactions
- Cloud-based/traditional site-based/hybrid platform

Implementation Issues - Data

- Variety of data sources and data types
- Availability and compatibility of data
- Sustainability and stability (of big-data sources)
- Data cleaning/reconciliation/processing

Implementation Issues - Personnel

- Availability and cost of technical personnel
- Mismatch expertise of technical staff
- Dedicated personnel to manage the project
- Dedicated personnel to operate the platform

Implementation Issues - Project Implementation

- Qualification of consulting teams
- Cloud platform vendor selection
- Project management
- Support from government
- Cooperation with other agencies

Implementation Issues - System Operation and Management

- Dedicated organization and personnel
- Sustainable budget
- Recognized authority

Conclusions

- Concise and achievable goals
- Pragmatic technical approach
- Qualified and dedicated implementation teams
- Proactive (aggressive) project management
- Authorized agency for platform operation
- Sustainable operation
- Support from government leaders