LLM Automated Evaluation Results

**Functional Requirements Evaluation Table**

According to your request, I have reviewed the Michigan Department of Transportation (MDOT) Traffic Information System requirements document. The evaluation followed these steps:

* **Data Entity Identification**: Core internal system data entities were extracted from the functional requirements (excluding external interfaces such as data sources or formats). A total of 9 data entities were identified: Raw Data, Validated Data, Traffic Metrics, Incident Reports, Weather Conditions, Cached Data, Archived Data, User Roles/Permissions, and Event Lifecycle Data. These entities were derived from requirement outputs, such as Validated Data from 2.2, and Traffic Metrics from 2.3.
* **Requirement Consolidation**: According to the rules:
  + General configuration-related requirements were removed: 2.16 Multi-Language Support and 2.17 Mobile-Friendly Interface, as they are considered general-purpose settings.
  + Rule 1 Consolidation: After examining all requirements, no cases met the criteria for consolidation (e.g., 2.1 Data Collection and 2.2 Data Quality Check both involve Raw Data, but their functions differ—collection vs. validation—so they are not merged).
  + Final number of functional requirements after merging: 21 (original 23 minus 2 removed).
* **Hallucinated Requirement Judgment**: Based on the definition (a requirement introduces a functional operation involving data entities that cannot be linked to existing entities, resulting in a disconnected E-R diagram). Evaluation applied strict criteria.
* **General Principle**: Each requirement was evaluated independently without omission. Slightly stricter judgment was applied to ensure that imperfect requirements were flagged (e.g., 2.21 Disaster Recovery Mechanism was identified as hallucinated).

Below is the complete evaluation table. Requirement names are abbreviated from the document, and justifications are based on requirement descriptions and definitions.

Functional Requirement | Hallucination | Justification

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2.1 Data Collection | No | Input (external real-time data) and output (Raw Data) are linked to existing entity Raw Data; not isolated.  
2.2 Data Quality Check | No | Input (Raw Data) and output (Validated Data) directly link to core entities; not isolated.  
2.3 Traffic Metrics Calculation | No | Input (Validated Data) and output (Traffic Metrics) are linked to existing entities.  
2.4 Incident Detection and Classification | No | Input (traffic anomalies) comes from Traffic Metrics; output (Incident Reports) is linked to an entity.  
2.5 Road Surface and Weather Condition Inference | No | Input (weather station data) is linked to Weather Conditions; output (road status) is a known entity.  
2.6 Dynamic Data Caching | No | Input (Processed Data) comes from Validated Data or Metrics; output (Cached Data) is linked to an entity.  
2.7 Long-Term Archiving | No | Input (Historical Data) comes from and stores into Archived Data; not isolated.  
2.8 Data Publication | No | Input (Processed Data) from core entity; output (Published Data) is a standard format entity.  
2.9 Alert Generation | No | Input (incident or weather data) comes from Incident Reports or Weather Conditions; output (Alerts) is an existing entity.  
2.10 MI Drive Presentation Support | No | Input (Processed Data) from core entity; output (formatted data) derived from Visualization Data.  
2.11 Web-Based User Interface | No | Input (user queries) links to core entities; output (map display) based on existing data.  
2.12 Extensibility and Configuration | No | Input (new config) and output (pipeline update) operate on existing processing entities.  
2.13 User Access Control | No | Input (user identity) and output (permissions) link to User Roles/Permissions entity.  
2.14 Historical Data Query | No | Input (query conditions) and output (records) link to Archived Data entity.  
2.15 Automated Report Generation | No | Input (report templates etc.) and output (PDF/HTML reports) link to Reports entity.  
2.18 Third-Party API Integration | No | Input (external API) and output (integrated data) link to existing entities.  
2.19 Real-Time Dashboard | No | Input (monitored items) and output (charts) are based on core entities like Traffic Metrics.  
2.20 Data Sharing and Collaboration | No | Input (shared links) and output (shared content) link to entities like Reports or events.  
2.21 Disaster Recovery Mechanism | Yes | Inputs/outputs involve no core data entities, breaking E-R connectivity; identified as hallucinated.  
2.22 Custom Algorithm Module | No | Input (user scripts) and output (custom results) based on existing processing entities like Traffic Metrics.  
2.23 Event Lifecycle Management | No | Input (event requests) and output (event status) link to Event Lifecycle Data entity.

**Summary:**  
The document involves 9 data entities: Raw Data, Validated Data, Traffic Metrics, Incident Reports, Weather Conditions, Cached Data, Archived Data, User Roles/Permissions, and Event Lifecycle Data.  
After merging by functional point, the total number of functional requirements is 21 (after removing 2.16 and 2.17; no merged items).  
There is 1 hallucinated requirement (2.21) and 20 non-hallucinated requirements.

Reason: The evaluation is slightly strict. Only 2.21 is labeled hallucinated because it involves no core data entity, resulting in architectural disconnection.