TRAFFIC REGULATION AND MANAGEMENT

KEY QUESTIONS

1. 3E factors and traffic engineering
2. Traffic regulation and management - data collection
3. Traffic regulation and management techniques
4. Traffic regulation methods

3E factors and traffic engineering

Traffic engineering is based on the 3E factors, which are:

- **(*education*)**
- **(*engineering*)**
- **(*enforcement*)**

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- **E (*evaulation*)**
- **E (*envorenement*)**

Traffic regulation and management - data collection

Traffic regulation and management requires knowledge of the infrastructure (network), requirements (traffic in general, i.e. the characteristics of traffic flows), and user characteristics. Knowledge of the above system elements allows us to :

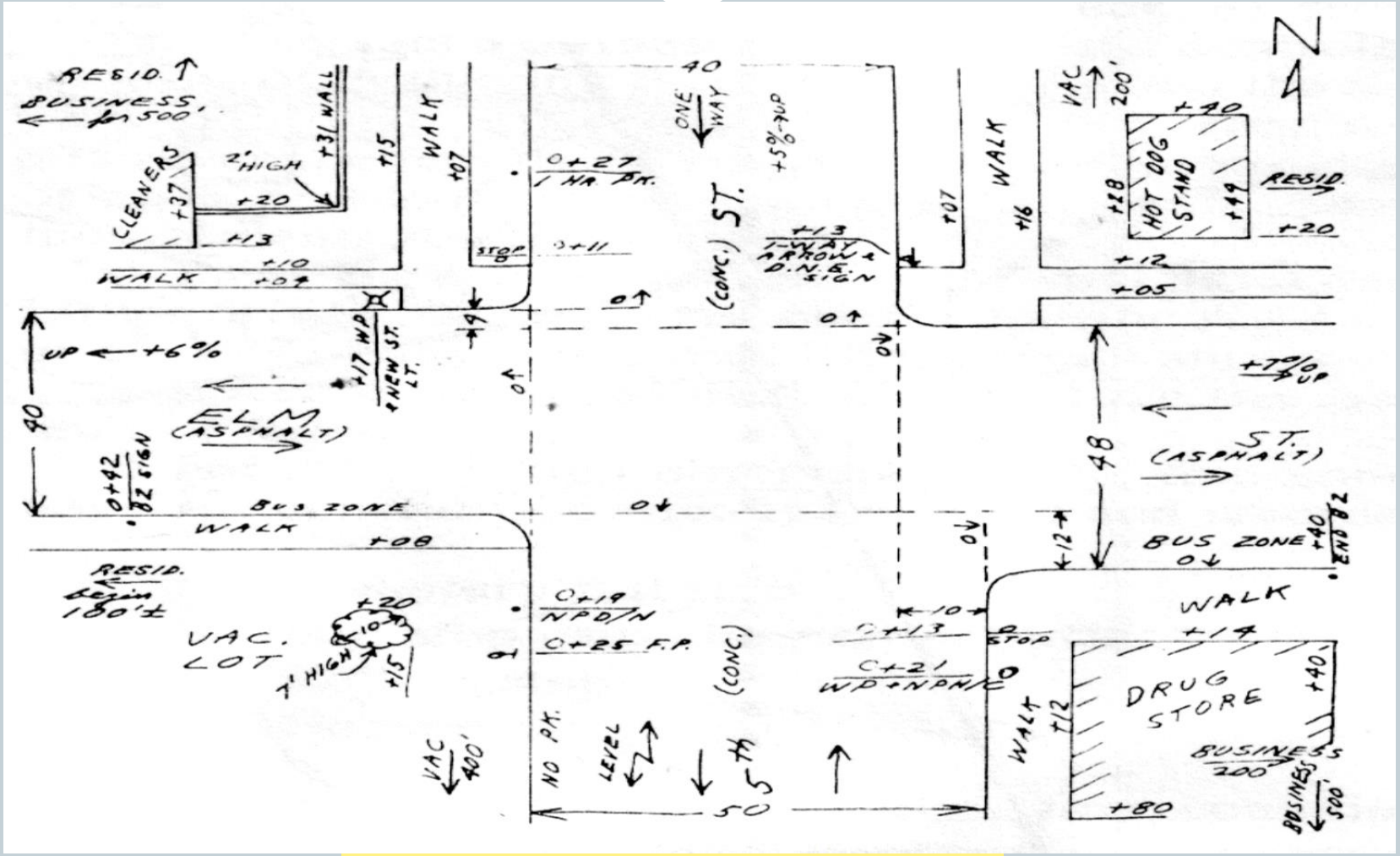
- To analyze and assess the current situation
- To define measures to improve traffic flow, keeping in mind the main goal of ensuring efficient and safe traffic.
- To design a system based on the proposed measures
- To conduct appropriate evaluations of the proposed solutions (simulations, before and after, etc.)

Traffic regulation and management - data collection

The types of data used and necessary in finding solutions in Traffic Regulation and Management can be divided into four basic groups:

- **Physical inventory (cadaster)**
- **Traffic parameters**
- **Other traffic data**
- **Population characteristics**

Traffic regulation and management - data collection



Example of physical inventory

Traffic regulation and management - data collection

Traffic parameters

Data is obtained through direct field observations carried out manually by individuals, as well as through the use of video recordings or remote sensing devices. The most common research is :

- **Flow**
- **Speed**
- **Travel time**
- **Time loss**
- **Distance and tracking interval.**

Traffic regulation and management - data collection

Other traffic data does not fit clearly into the previous categories. The following data are most often in this group.

- ***Traffic accidents***
- ***Parking***
- ***Delivery vehicle and passenger flows in JMMP***
- ***Pedestrian and bicycle traffic***
- ***Data on population characteristics***

Traffic regulation and management techniques

Traffic control devices and equipment can be divided into :

a) Static traffic signals and equipment :

- horizontal signage used to mark the carriageway on roads and streets traffic signs of danger,
- explicit orders, restrictions and notices placed alongside roads, protective, buffer, elastic and pedestrian fences and
- direction signs used to secure and mark the edge of the road.

Traffic regulation and management techniques

b) Dynamic-light signaling, devices and equipment :

- variable traffic signs,
- light signals or traffic lights with single-, two- and three-color variable lights that regulate the right of way of vehicles and pedestrians at points of collision and intersection of traffic flows,
- control devices for controlling the operation of traffic lights,
- light speed indicators, fog detectors, etc.

Traffic regulation and management techniques

The issue of traffic regulation, starting from the specificities of network subsystems on the one hand and the characteristics of static and dynamic traffic signaling and equipment, can be divided into :

- traffic regulation on roads
- traffic regulation on city roads
- traffic regulation at road and street intersections.

Ways of traffic regulation

The methods of regulating and controlling traffic are :

- regulation and control by traffic signs,
- regulation and control by authorized persons,
- regulation and control by light signals,
- regulation and control by spatial distribution of flows,
- regulation and control by automated systems,
- regulation and control by "intelligent" systems.