

## PART I — TRAFFIC IMPACT

*“Would the east-west traffic on Forsyth, Adams, Monroe and Duval Streets seriously interfere with the north-south movement of traffic on Main, Ocean, Newnan, Market and Liberty Streets?”*

*“What would be the overall effect on traffic conditions in Downtown Jacksonville?”*

The first question concerns an area with its boundary just north of Duval, east of Liberty, west of Main Street and along the north bank of the St. Johns River. In order to answer this question it was necessary to examine the proposed traffic distribution plan providing for the improvement of Duval, Monroe, Adams and Forsyth Streets, from Main Street to Washington Street. Included in the plan are the one-way street ramp connections to a limited access facility starting just east of Washington Street, which would cross the spur railroad tracks and connect to the north end of the Commodore Point Bridge. This proposed plan, which is still under study as to the exact location, was developed by the Jacksonville Expressway Authority and is shown graphically on Fig. 1. In addition, it was confirmed by City officials that a proposed River Drive is to be extended eastward from the terminus of Water Street, adjacent to the St. Johns River bulkhead, to connect with Market Street south of City Hall. Consideration is also being given to extending this facility one block further east and connecting at Liberty Street south of the County Court House. Should this be done, it is then recommended that the traffic pattern as shown on Fig. 1 be utilized, making Market Street one-way southbound and Liberty Street one-way northbound between Duval and the proposed River Drive. The basis for this recommendation is discussed in a later paragraph.

### **Existing Capacity vs. Volume**

Since circulation and movement of traffic is of prime concern, it was necessary to first obtain traffic counts at all twenty (20) intersections described by the subject question to form a present-day base, to which could be added the traffic developed by the new river crossing. It also served as a basis for determining the relative degree of existing congestion at each intersection. Traffic counts were ob-

tained, by hours, from 8 a. m. to 8 p. m. on a typical weekday (Saturday and Sunday excluded) for vehicles on each street approaching each intersection. The number of vehicles passing straight through, as well as those turning right or left was recorded. It should be noted that both the morning and evening peak hours of traffic movement were included within the time period that counts were obtained at each intersection.

The reason for obtaining an hourly count of vehicles approaching an intersection is to provide a basis for calculating the traffic-carrying capacity of each street. It is known that usually the most critical limitation on street capacity results when traffic approaches an intersection because, at this point, it must share the right-of-way with the cross street traffic.

Stated simply, street capacity is measured by the number of vehicles that can pass a point (intersection in this case) on a street in a fixed period of time (usually an hour) under prevailing conditions. It is evident that street capacity will vary with changes in street width, amount of time assigned to the street by traffic signals, number of vehicles making left or right turns, and number of trucks or buses in the traffic stream.

Figure 2 compares actual peak hour traffic to hourly street capacity, graphically, as it exists today in the eastern portion of downtown Jacksonville. While the pictorial presentation at first appears to be difficult to understand, a brief study of the Legend should clarify the meaning of the symbols used and make the chart intelligible. It will first be noted that all hourly capacities and peak hourly volumes are measured on the approach to each intersection. As previously stated, it is on the approaches to intersections that street capacities are normally at their most critical level, and, therefore, it is on the approaches that traffic volume should be compared to capacity. The total width of the band represents the total hourly capacity of the intersection approach.

The total band is subdivided into a hatched width and a solid width. The hatched width shows graphically, and to scale, the peak hour volume of vehicles approaching the intersection, and the solid width shows that portion of the hourly capacity still available. It will be noted that there is no surplus of capacity for southbound vehicles