



TEXAS
TRANSPORTATION
INSTITUTE

TEXAS
HIGHWAY
DEPARTMENT

COOPERATIVE
RESEARCH

TRAFFIC ASSIGNMENT
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in cooperation with the
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BIBLIOGRAPHY (63-6)
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TRAFFIC ASSIGNMENT

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1. An iterative assignment approach to capacity restraint on arterial networks, Robert Smock.
Nat'l Research Council--Highway Research Board--Bul 347, 1962, p 60-66.
One objective of contemporary traffic planning research is to devise a method for the computer assignment of interzonal volumes to major street networks in a way that respects the capacity of the streets. The Detroit Area Study has developed a program for a medium-size computer that represents one solution to this problem. Before describing the new procedure, this paper discusses some of the background of the problem, and, after describing the procedure, the paper mentions the place for arterial assignment in the total process of transportation planning.
2. A direct approach to traffic assignment, Morton Schneider.
Nat'l Research Council--Highway Research Board Preprint Jan 1963, 8p.
This is a report made by the Systems Research Chief of the Chicago Area Transportation Study.
3. Traffic assignment analysis and evaluation, David K. Witheford.
Nat'l Research Council--Highway Research Board Abstracts 32: n 11, Dec 1962, p 46, paper prepared for presentation at 42nd An Mtg of HRB, Jan 1963.

Traffic assignment by computer is one of the most useful tools presently available to the transportation planner. But like all tools, traffic assignment is only as good as the manpower behind it. To use it most advantageously requires understanding of the capabilities and limitations not only of the tool, but also of the inputs and related assumptions that go hand in hand. Properly employed, the assignment is invaluable, and not just in producing volumes of networks.

Assignment analysis should be designed and carried out with the following purposes in mind: (a) establishing validity of assignment results; (b) systematically producing workable data for evaluation (including economic evaluations, further general planning, design volumes) (c) permitting evaluation of internal system performance, (identifying good and weak points in system, spotlighting deficiencies, etc.); (d) permitting comparative evaluations

with other outputs to aid in planning and design toward the "best" system; and (e) permitting evaluation and interpretation of results for use by highway designers. These points are discussed both in general and with particular reference to PATS procedures. Emphasis is also given to the application and interpretation of results within the study for its own benefit and also for the benefit of participating agencies.

4. Generated and diverted traffic--their volumes and assignment, T. E. H. Williams.
Institution of Highway Engineers--J 9: (Great Britain), n 4, October 1962, p 312-322.
Elements of potential traffic; gravity model ; traffic generated from home.
5. Origin-destination survey procedure as adopted in the traffic forecast for Cumbernauld New Town, W. K. Mackay and F. Stamper.
Institution of Highway Engineers--J 9: (Great Britain), n 4, October 1962, p 323-329.
Planning information required; work journey analysis procedure; a general description of Cumbernauld traffic analysis; basic data required and assumptions made in one analysis at Cumbernauld New Town; location of housing; family characteristics; location of industry; commuters; distribution of workers; car ownership; mode of travel; walkers; car usage factors; car occupancy; public transport; travel summary; commercial vehicles.
6. Glasgow traffic survey, R. Hodgen.
Institution of Highway Engineers--J 9: (Great Britain), n 4, October 1962, p 330-331.
Original survey extended to scope and scale of a comprehensive traffic survey which would permit assignment of traffic to entire street system to assess effect of any new road proposal for city.
7. The value of origin and destination surveys-Renfrewshire, A. King.
Institution of Highway Engineers--J 9: (Great Britain), n 4, October 1962, p 332-333.
Survey carried out in August 1960, to enable an assessment to be made of traffic likely to use a bridge across River Clyde in vicinity of present Erskine Ferry.

8. Statistical evaluation of mathematical projection model, Chattanooga, Tennessee. Smith (Wilbur) and Associates. Prepared for Tennessee Dept. of Highways in cooperation with U. S. Bureau of Public Roads, New Haven, Conn., 1961, 26p. Processed.
Comparisons of traffic assignments of synthetic and actual survey data on different networks, showed very minor errors in most instances.
9. A mathematical model for traffic assignment, James Simmons. M. A. Thesis, Wayne University, 1961, 22p.
10. Selected link assignment subroutine.
Research Letter (PATS) 5: 1-9, April 1963.
11. Estimating travel time on all routes in a metropolitan county.
CATS Research News 5: 2-124, April 26, 1963.
12. Traffic assignment analysis, Richard E. Kolesar.
Research Letter (PATS) 4: 16-36, Jan-Feb 1962.
13. A computer method for traffic assignment developed and used in Sweden.
Int Road Safety & Traffic Review 11: 27-31, Summer 1963.