

## C 「公路工程」相關資料補充

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#### C.4.3 雙車道郊區公路

### C.5 土方之計算

### C.6 MOSS 程式之介紹

資料來源：

1. AASHTO, "A Policy on Geometric Design of Highways and Streets," AASHTO, 1984.
2. 鄧曜輝，中華顧問工程師運輸土木部設計組組長，「道路定線設計之原理與實務講義」，民國八十四年。
3. 蔡攀鰲，公路工程學，成功大學土木系，八十一年（十一版）。
4. 龍天立、鄭賜榮，「臺灣地區公路容量手冊」，交通部運輸研究所委託，臺灣大學土木工程研究所，民國七十九年十月。
5. 李英豪、白建華、李朝聰 (1996). 「公路工程電腦實作 - 教材大綱」，教育部顧問室營建自動化科技教育改進計畫，編號85-營建-教材-009，淡江大學土木工程學系，中華民國八十五年三月十五日。

# C.1 公路之服務水準

Level of Service	Controlled Access Highways	Multilane Rural without Access Control	Two Lanes	Urban and Suburban Arterials
A	Free flow. Operating speeds at or greater than 60 mph. Service volume of 1,400 passenger cars per hour on two lanes, one direction. Each additional lane serves volume of 1,000-vph lane.	Operating speed 60 mph or greater. Under ideal conditions, volume is limited to 600 passenger cars per lane per hour or 30 percent of capacity. Average speeds are likely to be influenced by speed limits.	Operating speeds of 60 mph or higher. 75 percent of passing maneuvers can be made with little or no delay. Under ideal conditions, a service volume of 400 passenger vph, total two-way, can be achieved.	Average overall travel speed of 30 mph or more. Free flowing with volume/capacity ratio of 0.60. Load factor at intersections near the limit of the 0.0 range. Peak-hour factor at about 0.70.
B	Higher speed range of stable flow. Operating speed at greater than 55 mph. Service volume on two lanes in one direction not greater than 2,000 passenger vph. Each additional lane above two in one direction can serve 1,500 vph.	Beginning of stable flow area. Volume at which actions of preceding vehicle will have some influence on following vehicles. Volume will not exceed 50 percent of capacity of 1,000 passenger vehicles per lane per hour at a 55 mph operating speed under ideal conditions.	Operating speeds of 50 mph or higher. Volumes may reach 45 percent of capacity with continuous passing sight distance. Volumes of 900 passenger cars per hour, total two-way, can be carried under ideal conditions.	Average overall speeds drop due to intersection delay and inter-vehicular conflicts, but remain at 25 mph or above. Delay is not unreasonable. Volumes at 70 percent of capacity and peak-hour factor approximately 0.80. Load factor at intersections approximately 0.1.
C	Operation still stable, but becoming more critical. Operating speed of 50 mph. Service flow on two lanes in one direction at 75 percent of capacity or not more than 5-min flow rate of 3,000 passenger cars per hour. Under ideal conditions each additional lane above two in one direction would serve 1,800 vph.	Stable flow to a volume not exceeding 75 percent of capacity or 1,500 passenger cars per lane per hour, under ideal conditions, maintaining at least a 45-mph operating speed.	Flow still stable. Operating speeds of 40 mph or above with total volume under ideal conditions equal to 70 percent of capacity with continuous passing sight distance, or 1,400 passenger vph total two-way.	Service volumes about 0.80 of capacity. Average overall travel speeds of 20 mph. Operating conditions at most intersections approximate load factor of 0.3. Peak-hour factor approximately 0.85. Traffic flow still stable with acceptable delays.

Table II-5. Level-of-service characteristics by highway type.

HG Table II-5 in 7/8:

Level of Service	Controlled Access Highways	Multilane Rural without Access Control	Two Lanes	Urban and Suburban Arterials
D	Lower speed range of stable flow. Operation approaches instability and is susceptible to changing conditions. Operating speeds approx. 40 mph. Service flow rates at 90 percent of capacity. Peak 5-min flow under ideal conditions cannot exceed 3,600 vph for two-lanes, one direction; 1,800 vph for each added lane.	Approaching unstable flow at volume up to 90 percent of capacity or 1,800 passenger cars per hour at an operating speed of about 35 mph under ideal conditions.	Approaching unstable flow. Operating speeds approximately 35 mph. Volumes, two-direction, at 85 percent of capacity with continuous passing opportunity, or 1,700 passenger cars per hour total two-way under ideal conditions.	Beginning to tax capabilities of street section. Approaching unstable flow. Service volumes approach 90 percent of capacity. Average overall speeds down to 15 mph. Delays at intersections may become extensive with some cars waiting two or more cycles. Peak-hour factor approximately 0.90; load factor of 0.7.
E	Unstable flow. Overall operating speeds of 30-35 mph. Volumes at capacity or 2,000 vph lane under ideal conditions. Traffic flow metered by design constructions and bottlenecks, but long backups do not normally develop upstream.	Flow at 100 percent of capacity or 2,000 passenger cars per lane per hour under ideal conditions. Operating speeds of about 30 mph or less.	Operating speeds in neighborhood of 30 mph but may vary considerably. Volumes under ideal conditions, total two-way, equal to 2,000 passenger vph. Level E may never be attained. Operation may go directly from Level D to Level F.	Service volumes at capacity. Average overall traffic variable, but in area of 15 mph. Unstable flow. Continuous backup on approaches to intersections. Load factor at intersections in range between 0.7 and 1.0. Peak-hour factor likely to be 0.95.
F	Forced flow. Freeway acts as a storage for vehicles backed up from downstream bottleneck. Operating speeds range from near 30 mph to stop-and-go operation.	Forced flow, congested condition with widely varying volume characteristics. Operating speeds of less than 30 mph.	Forced, congested flow with unpredictable characteristics. Operating speeds less than 30 mph. Volumes under 2,000 passenger cars per hour, total two-way.	Forced flow. Average overall traffic speed below 15 mph. All intersections handling traffic in excess of capacity with storage distributed throughout the section. Vehicular backups extend back from signalized intersections, through unsignalized intersections.

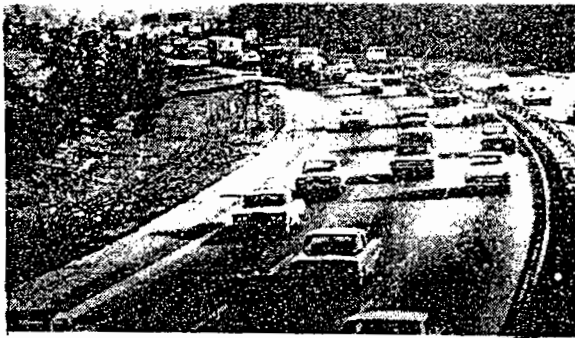
Table II-5. Continued.



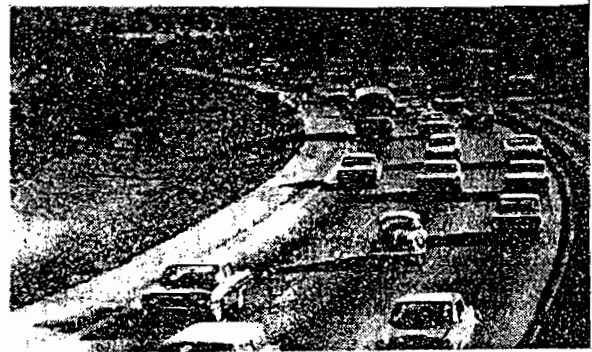
A 級服務水準



B 級服務水準



C 級服務水準



D 級服務水準



E 級服務水準



F 級服務水準

圖五~2 各級服務水準之行車情況