

INTISARI

Jalan merupakan prasarana penting untuk aksesibilitas. Jenis perkerasan jalan berdasarkan karakteristik bahan campuran : ¹⁾Perkerasan Lentur (*Flexible pavement*) berbahan batu pecah, pasir, lempung dan/atau lanau dan aspal sesuai spesifikasi. ²⁾Perkerasan kaku (*Rigid pavement*) berbahan batu (sebaiknya batu pecah), semen, pasir, air, lempung dan/atau lanau sesuai spesifikasi. Tujuan Penelitian membantu saat memilih jenis perkerasan dan menentukan tebal perkerasan jalan. Metode penelitian menggunakan data survei wim (*Weight in motion*) dan studi Pustaka. Jalan tol Jakarta-Cikampek II dibangun sejajar dengan Jalan tol Jakarta-Cikampek Eksisting. Memiliki panjang ≈ 62 Km. Pembangunan Jalan tol Jakarta-Cikampek II untuk menghemat waktu perjalanan. Jalan tol Jakarta - Cikampek adalah jalan penghubung antara Jabodetabek dengan Jalan Tol Purbaleunyi dan Jalan Tol Cipali. Data yang WIM jalan tol Purbaleunyi yang digunakan pada desain tebal perkerasan didapat dari PT.Virama Karya. Metode yang digunakan berdasarkan petunjuk perencanaan tebal perkerasan lentur jalan raya dengan metode analisa komponen jika perkerasan lentur dan petunjuk perencanaan jalan beton semen jika pada perkerasan rigid.

Analisa berdasarkan faktor pertumbuhan arus lalu lintas rata-rata $\approx 4,8\%$ tiap tahun dihitung dengan data wim 2019, diperoleh perkiraan arus lalu lintas ≈ 569 kendaraan/hari/2 jalur pada umur rencana 20 tahun. Perkiraan arus lalu lintas ≈ 1452 kendaraan/hari/2 jalur pada umur rencana 40 tahun. Tabel 2, tabel 3 RSNI T-2004 menyarankan 2 lajur tak terbagi (kecepatan rencana lebih rendah dari jalan tol umumnya). Diperoleh desain perkerasan kaku dengan tebal Lapis pondasi ≥ 10 cm, bahan pengikat ≈ 12 cm, slab ($f_c' \approx 3,5-6$ MPa pada Maximum load ≈ 18 ton, $f_c' \approx 4,5-7$ MPa pada Maximum load 26 ton, $f_c' \approx 7-12$ MPa pada Maximum load 60 ton pada kendaraan acuan truk kontainer) ≈ 19 cm. Diperoleh desain perkerasan lentur dengan tebal Lapis pondasi bawah (Tanah pasir) ≈ 25 cm, Lapis pondasi Atas (Batu pecah kelas A) ≈ 20 cm, Laston (SMA) $\approx (5,0 + 4,0 + 3,0)$ cm.

Data survey acuan belum berdasarkan pada jam puncak. Pemilihan jenis perkerasan kemungkinan memerlukan analisa terhadap ketersediaan bahan dan workabilitas saat pelaksanaan dan memperhatikan waktu pelaksanaan. Jika memperhatikan aspek keselamatan, kenyamanan dan konsep jalan tol bebas hambatan, disarankan 6 lajur terbagi (6/2D)

Kata Kunci : tebal perkerasan jalan, perencanaan tebal perkerasan lentur, perencanaan jalan beton semen, Jalan tol,

Roads are important infrastructure for accessibility. Types of road pavement based on the characteristics of mixed materials: 1) Flexible pavement (Flexible pavement) made from broken stone, sand, clay and/or silt and asphalt according to specifications. 2) Rigid pavement (rigid pavement) made from stone (preferably broken stone), cement, sand, water, clay and/or silt according to specifications. Research use for help when choosing the type of pavement and determining the thickness of the road pavement. The research method uses wim survey data (Weight in motion) and pustaka. The Jakarta-Cikampek II toll road study was built parallel to the Jakarta-Cikampek Eksisting toll road. It has length of approximately equal 62 Km. Construction of the Jakarta-Cikampek II toll road use to save travel time. Jakarta - Cikampek Toll Road is a connecting road between Jabodetabek and Purbaleunyi Toll Road and Cipali Toll Road. The data of the Purbaleunyi toll road WIM used in the thick design of the pavement was obtained from PT. Virama Karya. The method used is based on "petunjuk perencanaan tebal perkerasan lentur jalan raya dengan metode analisa komponen" if the pavement is flexible and "petunjuk perencanaan jalan beton semen" if on rigid pavement.

Analysis based on the average traffic flow growth factor of approximately equal 4.8% annually, and calculated with 2019 wim data, obtained an estimated traffic flow of approximately equal 569 vehicles / days / 2 lanes at the plan age of 20 years. Estimated traffic flow approximately equal 1452 vehicles/day/2 lanes at the plan age of 40 years. Table 2, table 3 rsni T-2004 suggests 2 undivided lanes (the plan speed is lower than the general toll road). Obtained rigid pavement design with thick Layer foundation greater than or equal 10 cm, fastening material approximately equal 12 cm, slab(f_c' approximately equal 3.5-6 MPa at Maximum load approximately equal 18 tons, f_c' approximately equal 4.5-7 MPa at Maximum load 26 tons, f_c' approximately equal 7-12 MPa at Maximum load of 60 tons on container truck reference vehicles) approximately equal 19 cm. Obtained flexible pavement design with thick Bottom foundation layer (Sand soil) approximately equal 25 cm, Upper foundation layer (Grade A broken stone) approximately equal 20 cm, Laston (SMA) approximately equal (5.0 + 4.0 + 3.0) cm.

The reference survey data is not yet based on peak hours. The selection of the type of pavement may require analysis of the availability of materials and workability during implementation and based on the implementation time. If based on the safety, comfort and concept aspects of freeways (without obstacles), it recommended that 6 lanes be divided (6/2D).