

# EVALUASI KEBUTUHAN HALTE BERDASARKAN RUTE ANGKUTAN KOTA DAN POTENSI PERGERAKAN DI KOTA TASIKMALAYA MENGUNAKAN *GEOGRAPHIC INFORMATION SYSTEM*

Siti Nurhayati Revisya<sup>1</sup>, Nina Herlina<sup>2</sup>, Pengki Irawan<sup>3</sup>  
Jurusan Teknik Sipil, Fakultas Teknik, Universitas Siliwangi  
Jalan Siliwangi No.24 Tasikmalaya, Jawa Barat, Indonesia  
E-mail: [217011051@student.unsil.id](mailto:217011051@student.unsil.id)

## ABSTRAK

Angkutan kota (angkot) merupakan salah satu moda transportasi publik utama di Kota Tasikmalaya yang melayani mobilitas harian masyarakat. Namun, persebaran halte sebagai fasilitas pendukung layanan angkot belum sepenuhnya terencana secara spasial. Penelitian ini bertujuan untuk menganalisis distribusi lokasi halte eksisting pada rute angkutan kota, menganalisis potensi bangkitan dan tarikan pergerakan di sepanjang rute angkot, dan menentukan lokasi kebutuhan halte baru untuk mengoptimalkan pelayanan rute angkutan kota dengan pendekatan *Geographic Information System* (GIS). Metode yang digunakan adalah analisis spasial dengan memanfaatkan data rute angkot, lokasi halte eksisting, data jumlah keluarga, fasilitas umum, serta peta administrasi dan tata guna lahan. Potensi bangkitan dihitung berdasarkan jumlah keluarga per kelurahan yang diproyeksikan dari data kecamatan menggunakan bobot luas permukiman, sedangkan potensi tarikan diperoleh dari jumlah fasilitas umum. Selanjutnya dilakukan analisis *overlay* pergerakan, analisis *buffer*, dan skoring titik halte untuk mengidentifikasi lokasi kebutuhan halte. Hasil penelitian menunjukkan bahwa distribusi halte eksisting belum merata di seluruh trayek, dengan beberapa trayek seperti 09A, 010, 013, 014, dan 015 tidak memiliki halte sama sekali. Sebaran zona pergerakan tinggi belum seluruhnya terlayani oleh halte eksisting. Penelitian ini menghasilkan peta usulan titik halte baru yang berjumlah 358 titik halte usulan, dengan 19 titik lokasi halte eksisting yang dipertahankan dan 86 titik lokasi halte prioritas pembangunan halte yang direkomendasikan berdasarkan skoring spasial.

**Kata kunci:** angkutan kota, halte, *Geographic Information System* (GIS), bangkitan-tarikan, pergerakan, Tasikmalaya

---

<sup>1</sup>Mahasiswa Jurusan Teknik Sipil Fakultas Teknik Universitas Siliwangi

<sup>2</sup>Dosen Pembimbing Tugas Akhir I, Dosen Teknik Sipil Universitas Siliwangi

<sup>3</sup>Dosen Pembimbing Tugas Akhir II, Dosen Teknik Sipil Universitas Siliwangi

# EVALUATION OF BUS STOP NEEDS BASED ON URBAN TRANSPORT ROUTES AND MOBILITY POTENTIAL IN TASIKMALAYA CITY USING GEOGRAPHIC INFORMATION SYSTEM (GIS)

Siti Nurhayati Revisya<sup>1</sup>, Nina Herlina<sup>2</sup>, Pengki Irawan<sup>3</sup>

Departement Of Civil Engineering, Faculty of Engineering, Siliwangi University  
Siliwangi St No.24 Tasikmalaya, West Java, Indonesia

E-mail: [217011051@student.unsil.id](mailto:217011051@student.unsil.id)

## ABSTRACT

Urban public transportation, particularly *angkot* (public minivans), serves as one of the primary modes of daily mobility in Tasikmalaya City. However, the distribution of bus stops, which serve as supporting infrastructure for *angkot* services, has not yet been fully planned from a spatial perspective. This study aims to analyze the distribution of existing bus stop locations along *angkot* routes, assess the trip generation and attraction potential along these routes, and determine the locations where new bus stops are needed to optimize service coverage using a Geographic Information System (GIS) approach. The method employed is spatial analysis, utilizing data on *angkot* routes, existing bus stop locations, household counts, public facilities, administrative boundaries, and land use maps. Trip generation potential is calculated based on the number of households per urban village, projected from subdistrict data using residential area proportions as weighting. Meanwhile, trip attraction is derived from the number of public facilities present. The analysis proceeds with overlaying movement patterns, creating service buffers, and scoring bus stop points to identify areas of high need. The results show that the distribution of existing bus stops is not yet evenly spread across all *angkot* routes, with several routes such as 09A, 010, 013, 014, and 015 having no bus stops at all. Many zones with high movement potential remain unserved. This study produced a proposed bus stop map consisting of 358 proposed locations, of which 19 existing stops are retained, and 86 locations are recommended as priority stops based on spatial scoring.

**Keywords:** public transportation, bus stop, Geographic Information System (GIS), trip generation, trip attraction, Tasikmalaya

---

<sup>1</sup>Student of Civil Engineering Department, Faculty of Engineering Siliwangi University

<sup>2</sup>Supervisor of Final Project I, Civil Engineering Lecturer, Siliwangi University

<sup>3</sup>Supervisor of Final Project II, Civil Engineering Lecturer, Siliwangi University