



IMPROVING PARKING OPTIONS ON CAMPUS

Problem description

At our university, parking is one of the biggest everyday challenges. The number of available spaces is very limited compared to the growing number of students and staff who drive. During peak hours, especially in the morning, it becomes almost impossible to find a spot.

Many cars end up parked outside designated areas, which creates safety risks and complaints from local residents. Some students waste a significant part of their break just searching for parking, which reduces their time for classes or rest.

There is also no clear system for prioritizing who gets access to parking — everyone competes equally, which often feels unfair. For example, teachers who need to stay all day may struggle to find a place, while some students use the lot only briefly.

This situation negatively affects punctuality, increases stress, and reduces overall satisfaction with campus life.

Stakeholders

Students:

- want affordable and accessible parking
- want less time wasted searching for spaces
- prefer clear rules and fair allocation

Teachers and university staff:

- need reliable parking for daily work
- want reserved spaces close to campus buildings

University administration:

- cares about student and staff satisfaction
- wants fewer complaints and conflicts
- must balance costs and available land

Local residents:

- want reduced congestion and illegal parking near their homes
- expect the university to manage traffic responsibly

Security and maintenance staff:

- need clear rules to enforce
- want safe and organized parking areas

Project goals

Main goals:

- increase availability of parking spaces
- reduce time spent searching for parking
- improve fairness and transparency in allocation
- enhance overall satisfaction with campus infrastructure

More specific goals:

- introduce clear signage and rules
- add digital tools (apps or sensors) to show free spots
- create reserved areas for staff and priority users
- encourage alternative transport (bikes, shuttles)

Current **situation** (AS-IS)

At present, the university parking system is very basic and lacks structure. The number of available spaces is far too limited compared to the growing demand from both students and staff. During peak hours, especially in the mornings, finding a spot becomes nearly impossible.

Because there is no digital monitoring or guidance system, drivers are forced to circle the campus in search of free spaces, wasting valuable time. The shortage of designated parking often leads to cars being left outside official areas, which creates safety hazards and frustrates local residents.

Another issue is fairness: there is no clear allocation system. Professors and staff members, who need to stay on campus for the entire day, face the same difficulties as students who only park for a short time. This lack of organization results in congestion, conflicts, and a generally stressful experience that negatively impacts punctuality and satisfaction with campus life.

Future vision (TO-BE)

Option 1 — Small Improvements

With minimal investment, the university could take practical steps to make parking more organized. Clearer signs and markings would help drivers navigate more efficiently. A small number of reserved spaces for staff could reduce frustration among employees. Stronger enforcement against illegal parking would also improve safety and order. At the same time, encouraging students to use bicycles or public transport could ease demand and reduce congestion.

Option 2 — Medium Investment

A more ambitious plan would involve introducing digital solutions. Sensors or cameras could be installed to monitor parking occupancy in real time. This data could feed into a mobile app, allowing drivers to check availability before entering the lot. Slight expansion of capacity could be achieved by reorganizing existing space more effectively. Time limits for student parking could also be introduced, ensuring that spaces are used more efficiently and turnover is higher during busy hours.

Option 3 — Larger Change

The most transformative option would be to build a multi-level parking facility, dramatically increasing capacity. The university could also partner with local transport providers to run shuttle services from nearby residential areas or transit hubs, reducing the need for everyone to drive directly onto campus. Smart systems for payment and reservation could be integrated, making the process more transparent and convenient. Although this option requires significant funding and planning, it would provide a long-term solution and modernize the campus infrastructure.

Requirements



Functional requirements:

- provide at least 20% more parking spaces
- reserve a fixed number of spots for staff
- introduce digital monitoring of free spaces
- enforce rules against illegal parking

Non-functional requirements

- maintain affordable or free parking for students
- ensure safety and accessibility
- reliable maintenance and monitoring
- minimize negative impact on local residents

RISKS

Even with improvements, several risks could affect the success of the parking project.

These risks highlight financial, logistical, and social challenges that the university must anticipate:

- High construction costs — building new facilities or expanding existing ones may require significant funding.
- Limited land availability — the campus may not have enough free space to expand parking areas.
- Resistance from students — new rules, restrictions, or fees could be unpopular and lead to dissatisfaction.
- Technology maintenance — digital systems such as sensors or apps may require ongoing support and repairs.
- Opposition from local residents — nearby communities may object to expansion due to traffic or noise concerns.

KPI (Success Indicators)

To measure whether the parking improvements are successful, the university can track several key performance indicators. These KPIs focus on satisfaction, efficiency, and overall campus experience:

- Fewer complaints — a noticeable reduction in student and staff complaints about parking availability.
- Reduced search time — drivers spend less time looking for free spaces, especially during peak hours.
- Higher satisfaction scores — surveys among students and staff show improved ratings for campus infrastructure.
- Increased legal parking — more cars are parked in designated areas, with fewer violations around campus.
- Improved punctuality — students and staff arrive on time more consistently, as parking becomes less stressful.