**Overview of scientific and research activities and instrumentation**

**Faculty of Technology**

**The Institute of Technology and Business in České Budějovice**

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**DEPARMENT OF TRANSPORT AND LOGISTICS**

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| **Name of Activity, laboratory** | **Breaf description of Activity, Instrumentation** |
| **Safety Inspections**  **(in accordance with Decree no. 104/1997 Coll.)** | Audit authorization. |
| **Security Audit**  **(in accordance with Decree no. 104/1997 Coll.)** | Audit authorization. |
| **Traffic Surveys** | Measuring the volumes of traffic flows (according to czech methodology TP 189 and TP 225), traffic flow surveys at intersections. Projections of transport in upcoming years. |
| **Transport Surveys** | Finding traffic flows and the number of passengers in public transport or passengers on bus stops within the system (area). |
| **Traffic-engineering studies on roads** | * Solution for pedestrian zones and residential areas, * Solution for walk paths and cycling infrastructure, * Capacity assessment of intersections and roadways, * Design and assessment of organizational measures of transport networks, * Analyses and forecasts of public passenger transport * Design of traffic signs and traffic organization in the city. |
| **Regulation of traffic on urban roads** | Projects in the level of studies focused on analysis of the current state of the urban roads in the cities and traffic calming proposals, eg .:  • Changing the road alignment,  • Optical psychological brake,  • Pedestrian crossings,  • Zones with speed limits,  • Residential areas,   * Changing the drive mode, and others. |
| **The study of static traffic** | * Draft concept of the parking policy, * Parking surveys, * The study of parking spaces in urban areas, * The study of „P+R“ parking areas with links to public transport, * A study of guidance system to parking areas using traffic signs and telematics. |
| **Traffic sign passports** | Evidence of road signs and traffic safety features on local roads owned by the municipality (town) or on roads owned by the region. |
| **Traffic engineering measures** | **Designing the road closures, detours, permanent and temporary traffic signs.** |
| **RFID laboratory** | Testing the functionality and efficiency of RFID systems used in warehouses, transportation and logistics. |
| **Microclimatic chamber** | Testing of materials, products and transport units to life due to unfavorable climatic conditions through climatic chamber, simulating the required environmental conditions, such as alternating heat, cold and humidity  (according to the standards of CSN EN 60068). ??? číslo normy |
| **Abrasion tester** | Testing of materials, products and packages on the ability to resist against the multiple burden of abrasion (test abrasion resistance according to ISO 6836/6839, 6396)  Instrumentation:   * Device for determining the sensitivity of packaging materials on abrasion |
| **Warehouse model** | The warehouse model consists of a warehouse pallet flat racks, flow racks "Glide-stock", pallet racking "Push Back", transport units, industrial trucks, and completed assemblies for RFID simulation of real storage and logistic processes. |
| **Development of cycling infrastrukture** | Consultation in the field of building and developing cycling infrastructure, studies and analysis organization of cycling in the area, measuring the number of cyclists, cyclists directional surveys, software Census cycling infrastructure. ??? census |
| **Use of drones for Industry and Research** | Construction and development of unmanned aerial vehicles (UAVs) for research, commercial and industrial activities, construction of drones "tailor-made" software development to control UAVs. |