

**SLA Spatial Challenge 2010
Project Topics (Agencies)**

S/No	Contributing Agency	Background	Criteria	Task	List of Data Provided by Agency	Remarks
1	Ministry of Home Affairs (MHA)	Having information on the profile of residents in multi storey buildings such as HDB flats would allow the HT agencies to be better prepared when responding to incidents (e.g. fire) in a particular building. Currently such information are usually displayed base on 'X' and 'Y' coordinates only. It will be more useful if information on the profile of residents in a multi storey building can be displayed by the floor level of a building (ie the 'Z' coordinate).	The GIS application developed needs to allow easy entry and updating of required data (either individually or in bulk). Data required includes age/date of birth and gender of elderly persons, postal code, block, unit no. and floor level of elderly persons' home, mobility status of the respective elderly person and whether the respective elderly person is staying with any caregiver. The application must then be able to automatically geo-code the data and display the information to show the distribution of elderly population based on 'X, Y and Z' coordinates, with the option to breakdown the statistics by age band, mobility status and availability of caregivers. It will be an added bonus if the application can be made available in a portable or hand-held version.	Develop a GIS application that members of public can use to provide information on the location (ie block, unit no. and floor level) of elderly persons (ie persons age 55 years old and above) who are staying in HDB buildings, the mobility status of the respective elderly persons and whether the respective elderly person is staying with any caregiver. The GIS application should be able to display the distribution of elderly population (ie persons age 55 years old and above) staying in HDB buildings by each floor level of a particular block (ie 'Z' coordinates), with the option to show statistical breakdown of the profile according to specific age band, mobility status and whether staying with any caregiver. It will be an added benefit if a portable devise can be developed to facilitate capturing of the information required.	Nil.	a) Funding of up to \$2,000 may be made available on reimbursement basis to the selected project team. b) The project team may be required to showcase the project in MHA's event(s) in addition to the SLA event. c) If the project is funded by MHA (in part or full, up to a maximum of \$2,000), the application(s) developed and data collected by the project team will be co-owned with MHA with each party having the right to further develop the project independently after the conclusion of Spatial Challenge 2010.
2	Land Transport Authority (LTA)	Bus transit availability is a measure of how much bus transit is available to a particular point. Within say a 400m walking radius, a point that has say 10 bus routes accessible with frequencies 10 mins each has better transit availability than one with 1.	Derive a methodology to generate the transit availability index first, i.e. function of headways + number of services (effective headway) at a certain walk catchment (say 400m). Possibly we can even have walking distance to bus-stops as a variable too.	Determine a housing estate's bus transit availability, analyse the distribution, how it complements land use, and briefly propose possible improvements.	A housing estate's road network, bus-stops, bus routes and bus route service information.	

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3	Singapore Land Authority (SLA)	SLA currently set aside about 300 parcels of our State land for Community Sites/use. This is to allow members of the public greater access to green land, given the highly urbanised environment. These sites could be used for various community activities eg casual soccer, frisbee, walking their dogs, tai-chi, kite flying, etc. Currently, some sites are more popular/well used while the others are not.	Identify why some Community Sites are more popular/well used, while others are not. Look out for the presence or absence of "complementary" facilities (eg toilets, hawker centres, Bus stop, etc) to evaluate if such complementary facilities contribute towards the popularity of a Community site.	Using on site survey/interview and GIS tools, draw some conclusions why are some Community sites more popular than the other. Some parameters to consider are: - size - presence of hawker centre - presence of public toilets - presence of bus services or MRT station - presence of "competitions" like stadium/swimming complexes - distance to the nearest residential estate (private and public) Future identification of Community Sites may take reference from the conclusion, with the aim to increase the rate of utilisation.	(1) 5 popular/well used sites and 5 not so popular/well used sites. (2) All the 300 sites, for overall reference.	
4	Ministry of Education (MOE)	MOE often holds meetings for MOE HQ officers and teachers (250 persons). These meetings may be zonal in nature, involving schools from the east, west, north or south zones. However, certain schools tend to be used frequently as they are more accessible. This may inconvenience hosting schools.	With due consideration given to the location of schools in each zone, type of facilities needed for meetings, accessibility, ease of traffic flow and cost of venue.	Propose suitable schools (primary, secondary and JCs) in the east, west, north and south zones which MOE could use in terms of accessibility by public transport, availability of parking lots in the vicinity, and availability of facilities (at least one auditorium/lecture room and 10 classrooms).	General information can be provided by MOE.	

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5	Urban Redevelopment Authority (URA)	With the newly opened Resorts World at Sentosa, the Harbourfront area continues its development to become an area with a well-balanced mix of commercial, residential, recreational and entertainment developments. Two new areas will also be available for development in the future- the foothills of Mount Faber and the city terminal area.	Due consideration should be given to envisioning what should be the identity of the area, and how this could be reinforced with the new proposed developments at Mount Faber foothills and city terminal. The study team should also 'understand the ground' adequately, not just in terms of existing urban developments, but also surrounding parks such as Southern Ridges- a 9km walk that stretches to Kent Ridge/ Clementi.	<p>The study should present new possible uses for the Mt Faber foothills, using GIS to suggest building heights which are compatible with the surroundings environment. The development heights should ensure that views from look-out points on Mt Faber towards Sentosa, the sea and the city skyline are not compromised.</p> <p>The study should build up an understanding of traffic patterns of users utilising the carparks and bus interchange at Seah Imm Rd and use GIS to analyse/ present the information. Specifically for the bus interchange, the study should examine whether the existing bus services should be relocated to other bus interchanges given the congestion at the Harbourfront area.</p> <p>The study should also consider the treatment of the carparks and bus interchange at the foothills of Mount Faber i.e. whether to integrate within future new developments at the foothills, or to relocate elsewhere.</p> <p>For the city terminal area- which includes the Keppel, Tanjong Pagar terminals and the offshore Brani terminal, the study should suggest a reconfiguration of land and roads to accommodate new land uses. The study should distribute floor areas (sq metres) for different land uses i.e. commercial, residential, civic & recreation, etc. for the city terminal area. The study should then use GIS to map out the land and road configuration, and lands uses, as well as use GIS to suggest building heights and built forms along the waterfront that will form a distinctive signature image for Singapore of the future.</p>	To be confirmed later.	