

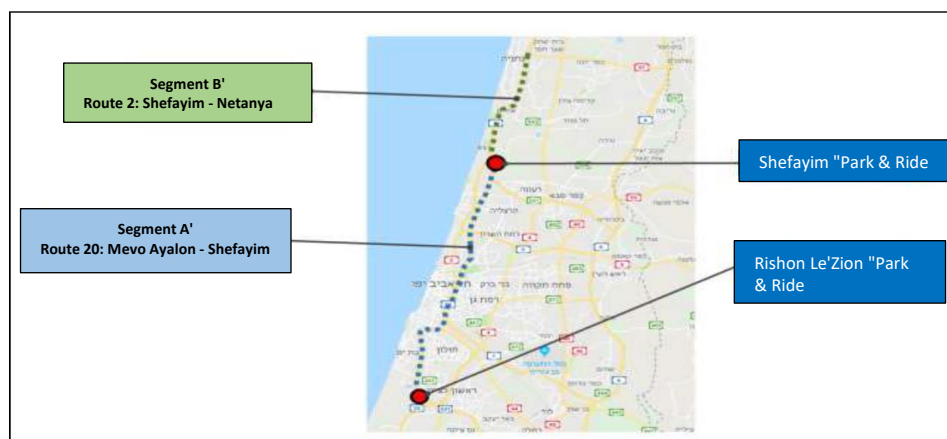
A Request for Information (RFI) Concerning the Subject of Technological Systems for Reversible Lanes For Light-Emitting Diode Markers (Active Cats Eyes aka Road Studs)

1. Background

- 1.1 The Ayalon Highways Company Ltd (hereinafter: "the Company") is a government company engaging per government decisions and its articles of incorporation in management, as an arm for the performance of the Government's assignments through the Transport Ministry for the design and execution of transportation projects.
- 1.2 The Company is currently carrying out several projects **nationwide**, emphasizing projects aiming to encourage public transportation while reducing the use of private vehicles.

- 1.3 In their framework, a review is being conducted to assimilate "reversible" lanes in various configurations to manage roadways' existing and future demands and optimize the country's existing highway infrastructures, including the fast lane and its subsequent projects.
- 1.4 One of the central projects is the "Fast Lane" project, including constructing a priority lane for a distance of approximately 80 km for public transport, HOV, and HOT vehicle traffic. Moreover, the project will contain
- 1.4.1 Construction of high-capacity Park & Ride parking lots (ITCs).
 - 1.4.2 Operation of (shuttle) transport services from the ITCs to the metropolitan core
 - 1.4.3 Traffic management systems, toll systems, and more
- 1.5 In one of the fast lane segments, it is necessary to construct a reversible lane solution, from the Netanya Interchange (the intersection of Highway 2 and Route 57) to the entrance to the Herzliya ITC (approximately 15 km) (hereinafter: "**the Reversible Segment**"). A General Diagram of the Reversible Segment:

Diagram No. 1: An Environmental Diagram of the Project Divided into Segments

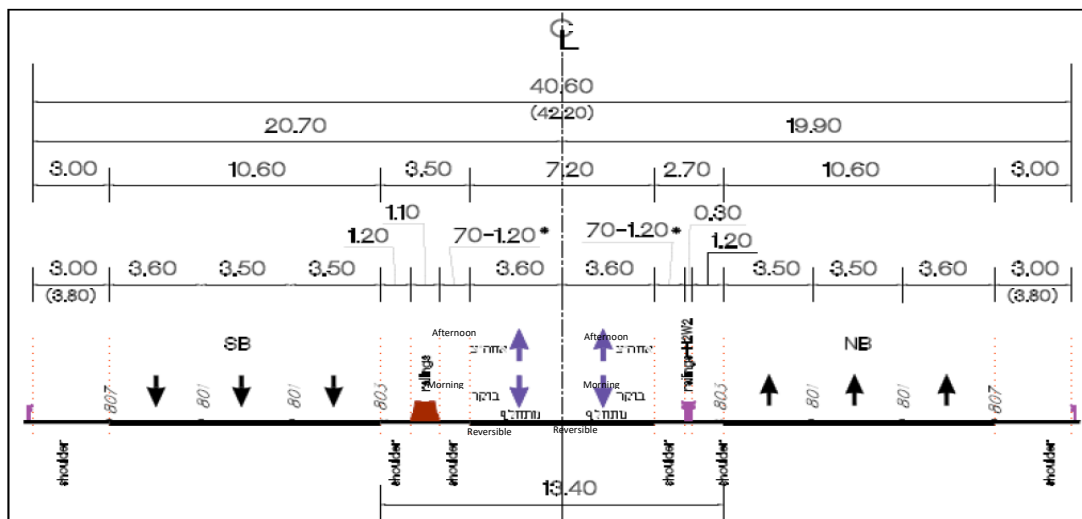


- 1.6 For the reversible lane's construction, the Company examines various technological solutions that will enable a smooth and safe activation of the Reversible Lanes.
- 1.7 One of the examined components is a light-emitting diode component that will be installed in the roadway at fixed distances (LED - Light-Emitting Diode Marker - active cats eyes) that will aid in marking and directing the traffic in the reversible segment (hereinafter - "**the Solution**"). For this, the Company seeks to receive information regarding a solution, per Regulation 14a of the Mandatory Tenders Regulations, 5753-1993 (hereinafter "**RFI**").

2. A Description of the Reversible Segment

- 2.1 The reversible segment will continue 15 km.
- 2.2 Below is a general description of the reversible segment:

- 2.2.1 The reversible segment will be situated in the roadway's center when it will serve north-south traffic during peak morning hours, while in the evening, it will serve traffic traveling in a south-north direction.
- 2.2.2 The two reversible lanes will be separate from the remaining lanes by using H2 Standard Safety Railings, per the European Standard EN-1317-2. Below is a typical cross-section of the reversible segment:

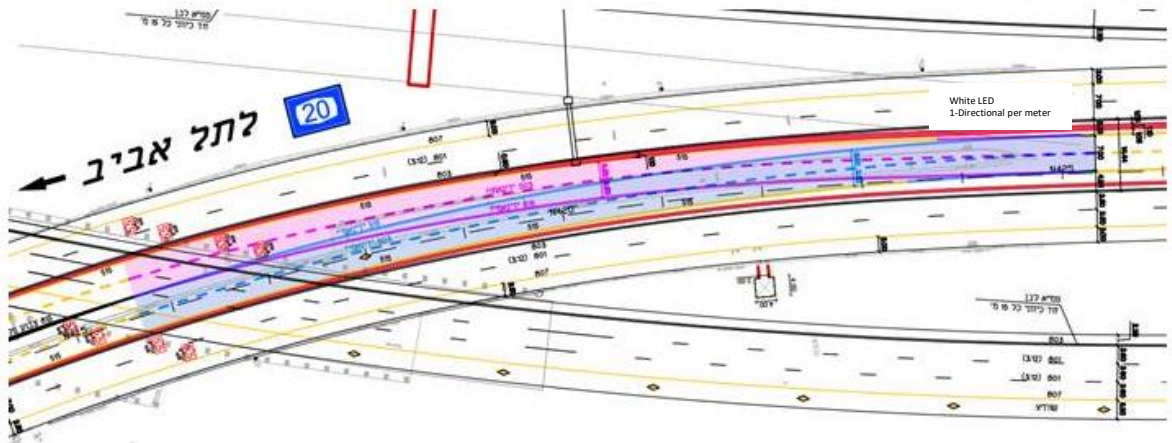


- 2.2.3 The system will be implemented in a segment that alternatively serves the two travel directions - southbound in the morning and northbound in the evening, along an approximately 200-meter segment that serves as a funnel in the direction of the traffic at the intersection between Routes 2 and 20 in the area split for the parking lot -see the markings in two different colors in the diagram below. Because the markings in the opposite directions intersect, ordinary-colored markings cannot be used, and the intention is to use instead dynamic markers that each time will only be lit in the relevant direction.

2.2.4 The system's activation will constitute a part of the reversible lanes management array that one of the Company's control centers will manage.

3. The Necessary Solution

3.1 The Company seeks to integrate into the overall solution for the reversible lane's operation a light-emitting diode component (LED - Light-Emitting Diode Marker - Active Cats To Tel Aviv



Eyes).

3.2 The solution will be installed in the roadway and mark the direction of travel in the reversible lane, per the travel direction that will be defined in the traffic control system.

3.3 Objectives for the system's integration:

3.3.1 To serve as both an enhancement and a replacement for the colored road markings accepted for directing the road's users to the reversible lane and from it back to the regular lanes, per the permitted traffic direction.

3.3.2 Enhance road user safety while limiting the risk of vehicle entry against the permitted direction of traffic.

3.4 It will be clarified that the solution is meant to be integrated with additional components in the reversible lanes management system, among other things, barriers (fixed and mobile), delineator posts, fixed road markers, barriers, fixed and alternating directional signs (LCS), control systems that will include cameras and detectors.

3.5 Below is a general description of the specifications that the Company is considering requiring as part of a future tender for the solution's construction in the reversible lane:

3.5.1 An ability to supply a clear means of lighting, marking the permitted direction of traffic.

3.5.2 The solution will enable a change in the lighting intensity while adapting (dimming) according to the state of lighting (day/night/weather).

- 3.5.3 The lighting intensity will enable visibility of the route from a distance of XX from the lighting component during daylight.
- 3.5.4 The solution will include the capability to change the direction of the angle of lighting per the approaching travel direction (by at least two angles).
- 3.5.5 The lighting will be of different colors (obligatory - white and yellow, optional - green and red).
- 3.5.6 A possibility for flickering at a rate of at least 60 flashes a minute.
- 3.5.7 The solution will not constitute a safety risk for the roadway's users, including preventing any risk of blinding.
- 3.5.8 The solution will not protrude from the road's surface and not disrupt traffic.
- 3.5.9 The solution will allow for control through a traffic management system and manually through a local command cabinet, through wireless or line communications.
- 3.5.10 The solution will be fed from an external power line electrical supply system or through the use of a solar power device situated on detectors that will charge during the day and enable its operation 24/7 without interruption and in all weather conditions.
- 3.5.11 The solution will comply with IP 68 water standards specifications and work at temperatures between -10° - $+80^{\circ}$ Celsius.
- 3.5.12 The system will have high survivability and require minimum maintenance.
- 3.5.13 The solution will operate continuously during all hours of the day, 24/7.
- 3.5.14 The solution will comply with all specifications of the relevant American/European standards for the product including, ASTM D-4280 and EN-14653 Part 3.

4. The Response to the RFI

- 4.1 As part of the response to the RFI, the following information must be provided:
 - 4.1.1 **Appendix A' - General Information Concerning the Respondent:**
 - 4.1.2 **Appendix B' - The Technical Specifications of the Proposed Solution** - the respondent, must attach general technical specifications for the proposed solution. The specifications will be prepared per and according to the list of subjects attached in Appendix B'. Also, it is necessary to attach catalogs, a link to websites, or any other source in which the requested, detailed information is contained, if it exists.

- 4.1.3 **Appendix C' - Information Concerning the Proposed Solutions' Application in Israel and Around the World** - in this appendix, the respondent will be requested to present details concerning clients for whom the proposed system has been installed. This presentation should contain film clips or photographs and any existing additional information.

5. General Guidelines

- 5.1 The RFI response should be submitted in Hebrew or English, together with the required documents and details as listed above, including any relevant information such as a presentation, film, photographs, documents, experiments, and the like.
- 5.2 The response will be submitted by email to **GALM@ayalohw.co.il** no later than 2.6.2021 12:00 [local Israeli Time].
- 5.3 Questions or requests for clarification concerning this RFI can be submitted by email to **GALM@ayalohw.co.il** no later than 19.5.2021 12:00 [local Israeli Time] through the email address listed above.
- 5.4 **This RFI is not an IFB and not a part of any tender process and/or competitive procedure**, and therefore creates no commitment whatsoever toward any of its respondents. This RFI is intended solely for the receipt of information, per its details, and following receipt of the said information, the Company will consider its continued activities concerning the RFI subject, if at all.
- 5.5 Nothing in this RFI constitutes an obligation by the Company to issue a tender or competitive proceeding, or both, concerning this RFI, or engage any entity in a future tender if issued, and nothing in this procedure creates any obligation or promise toward any of the participants, and/or person and/or entity.
- 5.6 Nothing in response to this RFI will establish an advantage in any tender/competitive proceedings as stated, if issued, and contains nothing to ensure compliance with threshold conditions or any other condition to the matter of a tender/competitive proceedings, as stated.
- 5.7 Should the Company decide to issue a tender and/or competitive proceedings as stated, it will be entitled in the tender/competitive proceedings to demand services different than those presented in this RFI and will be entitled to place additional or different terms and conditions than those presented in this RFI, at its discretion.
- 5.8 The Company will be entitled to request clarifications, completions, or additional information from whoever responds to this RFI or from other entities, and all as it deems appropriate.

- 5.9 The Company is entitled to invite respondents to present a response before its representatives. It is clarified that the Company bears no obligation to invite all of the respondents.
- 5.10 The Company welcomes any invitation to a demonstration of a unit of the proposed solution at sites where it operates (including by way of a remote presentation) in a format that the respondent will choose.
- 5.11 All of those responding to this RFI declare their agreement that the Company is entitled to use the information submitted, all or parts thereof, to prepare a tender or any other need that the Company will see fit.
- 5.12 The respondents to the RFI are requested to note what part of the data and/or documents included in the submitted response constitutes, in their opinion, a commercial secret. Subject to all law, Ayalon Highways will preserve the secrecy and not disclose and/or convey any information constituting a commercial secret that has come into its possession as part of this RFI, except to Ayalon Highways employees and consultants on its behalf, for whom the information as stated is necessary for the fulfillment of their assignment. It is clarified that the respondents to the RFI are entitled to submit documents and documentation in which details irrelevant to the RFI are redacted.
- 5.13 The respondent to this RFI declares that it waives in advance any claim, including in the matter of intellectual property, and/or suit and/or demand from the Company or anyone on its behalf and/or from the Transport Ministry concerning the information included in his response to this RFI or subsequent clarification inquiries to the extent there will be any of this kind.
- 5.14 All the expenses involved in preparing a response to the RFI and its submission are the respondents' sole responsibility and at their expense. The respondents ineligible for any compensation or indemnity or payment of any kind whatsoever for submission of a response to this RFI, and the Company will not bear any responsibility in this respect.
- 5.15 Any respondent submitting information to this RFI undertakes that no rights, including third-party copyrights or commercial secrets, will be infringed in the framework of the information submitted and/or any use made thereof. The respondent alone bears responsibility for any demand and/or claim, the origin of which is a claim that third-party rights as stated were infringed.
- 5.16 The Company is entitled to cancel this RFI at any phase for any reason.
- 5.17 It is clarified that Ayalon Highways bears no obligation to choose any technology proposed as part of this RFI, and it is entitled not to implement any technology that may be proposed under this RFI and all at its sole discretion.

Appendix A' - A Profile of the Respondent to the Request for Information (RFI)

Name: _____ Corporate ID/Licensed Dealer No.:

Year Founded: _____ Address: _____

The Respondent's Contact Person: _____ Position: _____

Telephone: _____ Email: _____

Names of the Respondent's Owners: 1. _____ I.D. _____

2. _____ I.D. _____

3. _____ I.D. _____

(If any company owner is a corporation, list the owners of that corporation)

Areas of Activity: _____

The primary technologies upon which the respondent's activity is based:

* Additional documents and any relevant information may be attached.

Appendix B' - The Technological Specifications of the Proposed Solution

As part of this appendix, the respondent is requested to address the following subjects:

1. The name, model, and manufacturer of the proposed system.
2. A general description of the solution's system and architecture.
3. A description of the system's components.
4. A response to the general specifications that will be detailed in Section 3.5 of this RFI above.
5. Specifications for installation of the proposed system.
6. The proposed system's *modus operandi* includes the product's control system, the wireless manner by which it is connected to detectors, including any automated/manual command capability.
7. An ability to change the direction of the lighting per remote command.
8. The intensity of the lighting that the solution supplies, the dimming levels that the lighting can provide.
9. The detection distance of the solution in daylight and at night.
10. The quantity of LED lamps contained in the proposed component.
11. The number of flashes per minute can control the flickers' frequency as offered in the solution.
12. The remote command capability to change the color of the lighting.
13. The system's communications interfaces.
14. The ability to connect the system to traffic management systems.
15. Standards to which the system complies (with an emphasis on the standards worldwide concerning reversible lanes operation and compliance with functional specifications per the standards ASTM D-4280 and EN-14653 Part 3).
16. The system's survivability level (MTBF - Mean Time Between Failure) and the required maintenance regimen
17. According to the cost of km/length in a straight segment, the system's cost of construction and maintenance per detector cost.
18. The distance required between detectors per existing standards/manufacturer's guidelines.

Appendix C' - Information Concerning the Proposed Solution's Application in Israel and Around the World

In this portion, a description should be provided concerning similar projects in which the solution has been installed on an experimental or operational basis.

The respondent is recommended to attach photographs/film clips/links.

	Project Name	The Name of the Executing Company	The country in which it was implemented	The length of the segment in which it was installed	The project's installation period	The contact details for the contact person on behalf of the primary client (name, email, and telephone).
1.						
2.						
3.						
4.						
5.						
6.						