

New York City Taxi of Tomorrow Request for Information

SECTION I – Executive Summary

New York City currently has a unique opportunity to explore upgrades to the existing NYC taxi fleet and is proactively exploring possibilities to more appropriately reflect the needs of its diverse stakeholders – passengers, drivers, owners and NYC residents. Similarly, Original Equipment Manufacturers (OEMs) have a unique opportunity to provide innovative vehicles to a highly visible taxi market located within one of the paramount marketing centers of the world.

This Request for Information (RFI) seeks to gauge the various options available to bring a new model medallion yellow taxicab to New York City in the near future.

Among the requirements envisioned for the new model taxicab, which are enumerated in greater detail in the Vehicle Technical Specification (VTS) (**Appendix 1**) are:

- meets highest safety standards
- superior passenger experience
- superior driver comfort and amenities
- appropriate purchase price and on-going maintenance and repair costs
- smaller environmental footprint (lower emissions and improved fuel economy)
- smaller physical footprint (with more useable interior room)
- universal accessibility for all users with a goal of meeting ADA guidelines, (wheelchair accessible), and
- iconic design that will identify the new taxi with New York City

Further, the City is interested in better understanding the possible potential in achieving the vision of the new taxicab given different methods available to the City. Particularly, how the potential to achieve the different goals of this program within the current regulatory framework of setting specifications and standards differs from alternative methods available to the TLC, such as procuring the development and manufacture of the taxicab. The City envisions unique marketing opportunities emerging from this project and is interested in understanding how strategic partnerships of varying forms with the automotive industry would benefit the goals of this project.

Information about all or any of the requirements enumerated in the RFI and VTS, as well as ideas regarding part or parts of any one requirement, or modifications related to the requirements, are welcome from potential manufacturers, interested parties and the riding public. In particular, the TLC is issuing this RFI to ascertain the current (and anticipated) state of technological availability, commercial feasibility, and compatibility of desired options, with the goal of determining the parameters of this project. TLC seeks to attain an understanding of what are feasible components for a Taxi of Tomorrow and is flexible in its approach to this project. Among other items, respondents should advise as to (i) whether they believe that all of the requirements enumerated in the VTS can be provided in a single vehicle (as well as how the vehicle solution can address such conflicting requirements), by when, and how the TLC can work to keep the vehicle current well into the future; (ii) a roadmap to how and when they believe each of these requirements can be met; (iii) if not all, which of the enumerated requirements they believe can realistically be provided, and by when; and (iv) what economic considerations they believe will need to be addressed in order for these requirements to be met

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(i.e., what price and/or economic incentives they believe OEMs would need in order to provide this vehicle), (v) what type of partnership with the City would work best for achieving the goals of this initiative and how different partnerships may impact the outcome of final product. In addition, respondents should provide information about all or any of the requirements (either mandatory or non-mandatory) enumerated in the VTS (and herein), as well as ideas regarding part or parts of any one requirement, or modifications related to the requirements.

Senior management at the New York City Taxi & Limousine Commission (TLC) and the Mayor's Office will be providing oversight throughout the project, while daily administration will be facilitated by a TLC project manager and an outside consultant.

This RFI contains a brief segment describing its purpose, a description of the TLC's goals and objectives for the Taxi of Tomorrow project and specific details as to what the TLC is seeking in terms of a response to this request. This RFI also seeks feedback on any other financial or employment-related opportunities (e.g., local workshops for taxi upfitting) for New York City and the state of New York associated with the production of the Taxi of Tomorrow.

The TLC anticipates that based on the information received in response to this RFI, a Request for Proposals (RFP) may be issued at a future date to seek one or more vendors to develop a purpose-built vehicle. **Vendors should note that no contract will be awarded pursuant to this RFI. Likewise, submission of a response to this RFI will not enhance any vendor's chances to be either included in any preferred vendor's list, or be awarded a contract pursuant to any RFP, should one be issued in the future.**

Please contact agency contact person with any questions you may have about this request as issued.

SECTION II – Timetable

Release Date of this Request for Information: February 20, 2008

All questions and requests for additional information concerning this RFI should be directed to Peter Schenkman, the Authorized Agency Contact Person, at:

Telephone: (718) 267-4599
Fax: (718) 956-1400
E-mail: schenkmp@tlc.nyc.gov

Date to Declare Intention to Respond:

Please indicated by March 7, 2008 if you plan to respond formally to this RFI so that TLC can schedule a meeting, either in person or by phone, with you prior to the Response Date to discuss this document.

Date: **March 7, 2008**
Time: **5:00 PM (EST)**
Location: Responses to this RFI shall be submitted to the TLC by email.

- By e-mail: schenkmp@tlc.nyc.gov

Final Response Date/Time and Location:

Date: **April 21, 2008**
Time: **5:00 PM (EST)**
Location: Responses to this RFI shall be submitted to the TLC

- By mail: Peter Schenkman
40 Rector Street, 5th Floor
New York, NY 10006
- By fax: (718) 956-1400
- By e-mail: schenkmp@tlc.nyc.gov

SECTION III – Summary of the Request for Information

The TLC is responsible for licensing and regulating vehicles for hire in the city of New York: taxicabs, liveries, black cars, limousines, paratransit vehicles, and commuter vans. Since the TLC's creation in 1971, the industries regulated by the TLC have grown to include more vehicles and drivers providing more rides to the public than ever before – moving 1.2 million New Yorkers each day. TLC-regulated travel is the third largest source of public transportation in New York, after the subway and buses. On an annual basis, TLC-regulated vehicles provide transportation to 400 million people and generate over \$4 billion in private revenue.

In New York City, taxicabs (also known as yellow cabs) are for-hire vehicles that are available only for street hail. In 2007, there were approximately 13,100 licensed yellow cabs in New York City. The current taxicab fleet is represented by approximately 16 different vehicle models, which are adapted by third party suppliers to meet the requirements of the TLC. The Stretch Ford Crown Victoria represents 85% (or over 12,000 vehicles) of the fleet. This is a mature, rear-drive platform reaching the end of its production life.

In 2007, Mayor Bloomberg introduced PlaNYC 2030, a roadmap to improve housing, transportation, energy infrastructure and air quality in NYC. For more information on PlaNYC 2030, see <http://www.nyc.gov/html/planyc2030/html/home/home.shtml>. This roadmap identifies significant improvement targets for taxicab vehicle CO₂ emissions: 25 mpg (revised city cycle) for new taxis beginning in 2008, and 30 mpg for new taxis beginning in 2009. These targets mean that the Crown Victoria will be phased out of service over the next 3-5 years. No other automotive- or truck-based vehicle has thus far been identified to take the Crown Victoria's place as the predominant model of the New York City taxicab fleet. If a successor is selected by default, a rare opportunity to improve the lives of taxi passengers and drivers, while also improving the environmental sustainability of New York City will have been lost.

Although the Taxicab of Tomorrow project is exploring options for yellow cabs only, it is expected that at least some of the features will appeal to purchasers of luxury sedan service within NYC, where 10,000 corporate cars and 5,000 luxury vehicles (limousines and sedans) already provide premium service every day. In addition, there is the possibility of sales to other taxi markets outside NYC, which could increase the total sales volume to offset the manufacturer's engineering and tooling investment.

A Unique Opportunity to leverage the value of New York City

By proactively reaching out to the auto industry, the City is trying to better communicate the needs of the taxi industry while accurately portraying to the auto industry the benefits of supplying this special vehicle. There are many methods available to the City to bring taxicabs to the streets of New York. The current method has focused on strict regulation of specification and standards. However, during the past decade changes to automotive industry, especially the ever diversifying fleet and power train offerings, may indicate that the current method is too rigid and stifling. The City would like to understand from the auto manufacturer's point of view the different opportunities and methods available to bring

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vehicles to the City streets that best meet the vision of this program today and well into the future.

The astute respondent will recognize this as much more than an opportunity to sell a few thousand taxis a year. The taxi of tomorrow can be the cornerstone of a worldwide marketing and branding campaign. Please refer to **Appendix 3** for a detailed discussion of New York City brand and marketing opportunities.

Consider New York City taxi as a high value market brand.

Taxicab passengers – 240 million of them, both tourists and residents – spend more than \$2.8 billion a year on taxi fares. Given the characteristics of New York City living, the yellow cab takes on enormous significance – both actual and symbolic.

The New York City taxi rider is a consumer who will, in turn, purchase vehicles for his or her personal use. In fact, the average New York City taxicab passenger has an annual income of over \$85,000, with 25% of all passengers earning an annual income over \$150,000. While it has long been the misconception that people who ride in yellow cabs live in Manhattan and do not own their cars, the fact is that almost 30% of taxi riders live outside Manhattan, where car ownership rates are significantly higher, and in some areas approach the national average.

In addition to New York residents/commuters, in 2007, 46 million visitors from other parts of the US and places around the world came to New York City. Every single one of them saw a sea of yellow cabs and considered hailing and riding in those cabs to be a quintessential New York experience. These tourists spent over \$28 billion on tourism in New York City. Many of these visitors are consumers who will purchase vehicles back home and will be impacted by a positive experience in New York City taxicab.

A well-designed vehicle will catch the eye of these consumers and be a platform to showcase the automaker's brand.

In intimate connection with the strength of the New York City brand today, there are at least three specific brand values that could be developed and expressed through a new iconic taxi. They are Environmental Sustainability, Sophisticated Durability, and Trendsetting Urban Design for Diverse Users.

Environmental Sustainability. As *PlaNYC* makes clear, environmental sustainability is a core value for New York City today. Because of its high density and public transportation network (of which the taxicab is an integral part), New York City is already one of the most environmentally advanced cities in the nation. As these measures illustrate, the city's association with forward-looking, green policies will only grow stronger. A "green" vehicle showcased against this background sends a powerful message.

Sophisticated Durability. Consistent with the increasing number of vehicles emphasizing urban durability – witness the increase in sales of urban SUV sales – as much of the world's population concentrates in urban settings, there will be a growing demand for tough vehicles that are also sophisticated and durable enough to thrive in New York – the New York City

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taxicab fleet travels 800 million miles, sees 73 million hours of driver time and 50 million hours of passenger time each year. The new urbanite may not be scaling unpaved back roads, but she will still want to feel safe and in control. Likewise, the new Iconic Taxi will exemplify sophisticated durability.

Trendsetting Urban Design for Diverse Users. Elegant, clear design transcends style. Consumers of every stripe – both passengers and the industry – will respond positively to a vehicle that respects their intelligence and design literacy. The appeal of such a vehicle would stem from its technical capacity and integrity of purpose and not from a contrived idea of consumer demand.

In addition to the brand value of the New York City taxicab, there is the marketing value. The fact is that the humble yellow cab is already an icon of New York City. It appears in thousands of films, TV shows and advertising campaigns every year. Each of these is a marketing opportunity that a savvy automaker will immediately recognize and capitalize on to complement overall marketing goals. New York City is also the world's premiere media market. It is home to all major television networks, most cable networks and countless radio stations and print publications, making it *the* best City in the World to launch a product, as it will capture and sustain the attention of the world media on the world's biggest stage.

More than just an opportunity for the auto industry to provide vehicles for use as taxis, the Taxi of Tomorrow project is an opportunity to explore the potential for New York City to partner with the auto industry. The opportunities for partnering with New York City are potentially limitless: from developing international co-marketing and co-branding campaigns to brand licensing opportunities; from developing an environmentally-friendly "green" icon in a "Greener, Greater New York" to developing a symbol of sophisticated durability in the ultimate urban terrain; and from appearing in every film, TV show and ad campaign that takes place in New York City to appearing in the myriad, worldwide press coverage of the New York City cab industry.

The TLC anticipates that based on the information received in response to this RFI, a Request for Proposals (RFP) may be issued at a future date to seek one or more vendors to develop a purpose-built vehicle. **Vendors should note that no contract will be awarded pursuant to this RFI. Likewise, submission of a response to this RFI will not enhance any vendor's chances to be either included in any preferred vendor's list, or be awarded a contract pursuant to any RFP, should one be issued in the future.**

SECTION IV: Summary of the Taxi of Tomorrow Vision and the Goals of the Accompanying Vehicle Technical Specification

The Taxi of Tomorrow program was initiated to define the requirements for a new, iconic taxicab for New York City that meets a much wider range of objectives than the current fleet. In order to define these requirements, an advisory committee was created, consisting of representatives from all major stakeholder groups, including disabled and able-bodied passengers, drivers, owners, fleet managers, public space users, environmental groups, the TLC and the Mayor's office. The following is the vision of this group and how its goals are currently being met.

In the past, it has proved difficult to define an accurate engineering specification to give to potential suppliers of vehicles for use as taxicabs in New York. In order to define the requirements in terms that are understood by manufacturers, Ricardo Inc. has developed the attached VTS for the Taxicab of Tomorrow. The VTS is intended to define the functional performance attributes and targets for a taxicab to allow the manufacturers to determine whether their vehicles will be compliant or suggest alternative validation methodologies that they feel are equivalent.

The ideal outcome from this exercise is the development of a single iconic vehicle that provides a unique identity for a New York City taxicab while meeting each of the stakeholder requirements. The TLC understands, however, that this ideal vehicle may not be immediately available. The purpose of this RFI is to provide the TLC with a better understanding of which vehicles (with which features) are immediately available and what is the most attractive roadmap to the ideal vehicle.

TLC seeks to explore opportunities to develop a new taxicab for New York City which is consistent with the PlaNYC 2030 initiative and which addresses, at the least, the following attributes as defined by the Taxi of Tomorrow Advisory Committee:

- meets highest safety standards,
- provides superior passenger experience attributes,
- provides superior driver comfort and amenities,
- an appropriate purchase price and on-going maintenance and repair costs,
- a smaller environmental footprint (lower emissions and improved fuel economy),
- a smaller physical footprint (with more useable interior room),
- complies with all appropriate and applicable ADA (Americans with Disabilities Act) requirements, and
- has an iconic design that will identify the new taxi with New York City.

In addition, the taxicab must meet the specific mandatory requirements set forth in the attached VTS.

VTS Background Information

The VTS has been divided up into sections based on the functional performance requirements of the vehicle, including relevant federal, state, local and agency regulations. While seeking to change any regulation is difficult, the City is open to ideas that require modifications to current standards, especially those regulations established by the TLC. It aims to identify engineering attributes at a vehicle level. It is understood that individual manufacturers will use differing

(and usually proprietary) validation protocols and historical experience to confirm that the vehicle meets its intended functional and durability requirements.

The majority of tests carried out to sign-off a typical vehicle available in the US market will be sufficient for determining the target vehicle's suitability as a taxi. However, there are several aspects where the taxi duty cycle or test sign-off are significantly different to a normal vehicle to require review. Particular attention has been paid as part of the Taxi of Tomorrow program to ensure that the vehicle that ultimately becomes the 'new' New York Taxi has been engineered to provide a cleaner, safer and more sustainable vehicle to meet the requirements of PLANYC.

Designers, particularly the Design Trust for Public Space and Smart Design, have already spent some time considering what this iconic cab should look like and what it would mean to passengers, drivers and the public in general. In **Appendix 2**, you will find a summary of Smart Design's comprehensive and innovative approach to the Taxi of Tomorrow. They partnered with a number of design firms, as well as automobile and industry manufacturers and suppliers to develop and synthesize their vision for the cab of the future. **Appendix 2** will take you through the process they underwent to develop a taxi with enhanced passenger and driver comfort and safety, accessibility, internal and external communication and vehicle appearance.

The Life of a New York City Taxi

- a. **NYC Taxi License:** The license to operate a cab in NYC (as opposed to the license to drive) is called a medallion. The NYC taxi shall be made available only to licensed medallion holders. The TLC welcomes suggestions on how to regulate the supply of taxis to non-approved users. The TLC strongly advocates the pre-fitment of all taxi-specific equipment by the vehicle manufacturer or an authorized and approved entity that maintains compliance with the manufacturer's standards.
- b. **Taxi Inspections, mileage and retirement dates:** The TLC inspects all cabs every 4 months; this inspection includes mechanical, electrical, and emission compliance as well as internal and external appearance checks.

A fleet-owned NYC taxi double shift (24 hours) operated by multiple drivers must be retired after 36 months in service. A privately owned taxi can remain in service for up to 60 months. A typical taxi driven for two 12-hour shifts per day will accumulate 150,000 miles/year of service. While fleet vehicles will cover about 400,000 miles during their life as a NYC cab, private vehicles can accrue as much as 150,000 miles in their 5-year service. Hybrid and ADA compliant fleet-owned vehicles can be operated for 60 months; however, this rule was originally promulgated to promote the use of these vehicles, and may be reviewed once the majority of the fleet meets these specifications.

- c. **Taxi duty cycle:** The typical NYC taxi fleet garage is in Long Island City, Queens; however, taxis spend most of their time in Manhattan. With the exception of trips to the three NYC airports, the vehicles spend most of their time on city streets. The average speed for a NYC cab while looking for a fare is about 7 mph; this rises to 15 mph once a passenger is aboard. The average 'paid' trip length is 3.7 miles; the average distance

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between fares is 2.87 miles. Trips to and from airports account for about 5% of all taxi trips. The average trip consists of 1.4 passengers.

This duty cycle results in increased use of throttle pedal operations, gear shifts and launch / brake events, as well as increased operation of rear doors and trunk. The average taxi picks up about 30 fares in a 12-hour shift; each of these will result in one of the rear doors being opened and closed twice. While some road surfaces in Manhattan are very poor, they qualify for the most part as ‘paved road’ when put into the context of a typical vehicle durability cycle. It should be noted, however, that while paved, there are significant impact-type disturbances from below surface construction, potholes and drain covers, which are more prevalent than would be encountered on an average urban road.

- d. **‘Heavy-duty’ Vehicle Equipment Specification:** Given the severity of the vehicle duty cycle, and the lack of a ‘Heavy Duty’ option on typical passenger vehicles, it is possible that the Taxi of Tomorrow will require components and sub-systems consistent with a ‘light duty commercial’ vehicle usage pattern.

TLC’s Current “Hack Up” Package

Listed below are features that the stakeholder committee has identified as being most important. TLC is interested in meeting these goals and would like your recommendation as to how this should and can occur. TLC seeks responses that suggest how these goals can be reached in new and innovative ways.

Currently, the NYC taxi is fitted with a variety of specific equipment mandated by the TLC, which is also outlined below; however, the present day mandated equipment can be eliminated or altered as long as the overall goal of its use is captured.

With the exception of some features that have been made available as a taxi package from manufacturers (seat trim, paint color, pre-wired for roof light) at present, the modifications or ‘hack-up’ is carried out by third party companies and meter shops licensed by the TLC. The current equipment specification is documented in detail in the TLC taxi regulations which can be found in **Appendix 1**.

- a. **A mechanism to track fares that is easily visible to all passengers and easily utilized by driver:**

The fare box must meet NIST (www.nist.gov) and NY State Department of Agriculture (<http://www.agmkt.state.ny.us>) standards. It should be fitted in such a way that it does not interfere with visual or tactile contact with any of the other vehicle controls, limit the effectiveness or operation of secondary restraint systems or obstruct access to or airflow from air registers in the vicinity. The meter or fare box controls shall be accessible to the driver without removing his/her safety belt. Receipts should be available to the passengers from his/her seated location. The current equipment that accomplishes this function is the taximeter.

b. External Communication System

TLC seeks a communication package that dynamically conveys availability and destination of the cab, demonstrates movements and behavior of taxi to other vehicles and pedestrians, and external markings that designate it is an officially licensed taxicab. This should include:

- Communication package visible from the street that indicates taxi availability and demonstrates potential cab activity such as turn signals. This is currently captured by the roof light, which is controlled by the present day taximeter.
- Mechanism for driver to communicate personal safety issues to law enforcement personnel without attracting the attention of the passenger. This is currently captured by the trouble light that is mounted on the front and rear of the vehicle with a concealed switch.
- A visible and easily recognizable marking indicating that the taxicab is licensed. The medallion currently provides this function; it is secured through a mounting hole on the hood of the vehicle. In addition, decals with medallion numbers, fare information and external TLC graphics offer consistent signage
- The paint color should be a distinctive shade of yellow. TLC is open to altering the shade of yellow that is currently used.

c. Driver and passenger safety

TLC is looking for a security system that does not interfere with existing secondary safety systems and provides a positive contribution to the overall safety to the driver and passengers. Currently, a partition offers driver protection with a clear upper section, operable access window, a driver identification panel and cash transfer mechanism. Privately owned cabs operated by a driver can elect to fit the vehicle with a security camera with tamper-proof recording capability - interfaced to the vehicle for automated operation – as well as an emergency cell phone connection instead of the partition; fleet cabs, however, must have a partition.

In the past, the partition has generated considerable debate as to its benefits and drawbacks. While it is considered a positive safety benefit, drivers report that it increases difficulty of communication between the driver and passenger, and reduces tips. The partition can be upgraded using a well thought out design, but other safety features may be more desirable.

d. Media, payment and location technology package

At present, this includes a partition-mounted passenger screen GPS receiver cell phone link credit card reader and taximeter interface. This technology is currently installed and maintained by 3 companies approved by TLC. The system components from the different manufacturers are not interchangeable. The system provides an automated trip log for the driver as well as credit card payment capability and GPS information + targeted advertising and news feeds for the passenger. The passenger display is typically integrated into the partition, and provides limited functionality to review pre-recorded news feed and targeted advertising. The media content is owned and delivered by communications companies in partnership with the hardware provider. In the future, it is possible this type of media, payment and location technology package could be built into the vehicle and designed by the manufacturer.

e. Non-permeable upholstery and floor covering

Upholstery and flooring that will be easy to maintain and clean for the passengers. Currently covered in vinyl, TLC is seeking more durable and comfortable technology and materials for the interior.

f. Communication of Driver and Vehicle Licensure

TLC vehicle ID and driver's license must be visible to the passenger from the back seat. This is currently accomplished through the driver hack license holder.

SECTION IV – Content of the Response

The TLC is issuing this RFI to ascertain the current (and anticipated) state of technological availability, commercial feasibility, and compatibility of desired options, with the goal of determining the parameters of this project. TLC seeks to attain an understanding of what are feasible components for a Taxi of Tomorrow and is flexible in its approach to this project. Among other items, respondents should advise as to (i) whether they believe that all of the requirements enumerated in the VTS can be provided in a single vehicle, by when, and how the TLC can work to keep the vehicle current well into the future; (ii) a roadmap to how and when they believe each of these requirements can be met; (iii) if not all, which of the enumerated requirements they believe can realistically be provided, and by when; and (iv) what economic considerations they believe will need to be addressed in order for these requirements to be met (i.e., what price and/or economic incentives they believe OEMs would need in order to provide this vehicle), (v) How the different methods, from regulatory to procurement to partnerships, for bringing such a vehicle to NYC would impact achieving the goals of this initiative and if possible offer an opinion of what method would work best and why

In addition, respondents should provide information about all or any of the requirements (either mandatory or non-mandatory) enumerated in the VTS (and herein), as well as ideas regarding part or parts of any one requirement, or modifications related to the requirements.

For further information on recent thinking about the taxicab please make reference to the following:

- PlaNYC 2030: <http://www.nyc.gov/html/planyc2030/html/home/home.shtml>
- Design Trust for Public Space:
 - Taxi07: http://www.designtrust.org/projects/project_06taxi07.html
 - Roads Forward: http://www.designtrust.org/publications/publication_07roadsfwd.html
 - Designing the Taxicab: http://www.designtrust.org/publications/publication_05destaxi.html

Responses to this RFI may include, but are not limited to, specific details and solutions regarding any or all of the requirements (both mandatory and non-mandatory) set forth in the VTS (and herein). No specific format is required to be used by any entity submitting a response to this RFI.

Information contained in the responses to the RFI will be used by TLC staff and the TLC Board of Commissioners for discussion purposes and to develop implementation strategies that may include proposed rulemaking, specifications for approved equipment, criteria for evaluating vendors, and parameters for pilot programs to test equipment.

A person or entity who submits records to the TLC should indicate in writing, at the time of the submission, the records that may contain proprietary information and request that those records be exempted from disclosure under FOIL. The TLC will then make an independent evaluation as to whether those records meet the standard specified by the trade secret exemption set forth in FOIL.

No representation is made herein that responses to this RFI will be confidential, proprietary or non-disclosable pursuant to the Freedom of Information Law. If you have

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questions regarding the confidentiality of your submission, please contact Peter Schenkman at (718) 267-4599.