MEMORANDUM OF UNDERSTANDING

between

LOWER MANHATTAN CONSTRUCTION COMMAND CENTER

and

NEW YORK CITY DEPARTMENT OF TRANSPORTATION

1. PURPOSE & SCOPE

This Memorandum of Understanding ("MOU") between The City of New York through its Department of Transportation ("NYCDOT") and the Lower Manhattan Construction Command Center ("LMCCC") sets forth the agreement of the parties with respect to the anticipated transfer to NYCDOT of all Intelligent Transportation Systems ("ITS") equipment purchased by LMCCC in accordance with the Federal Transit Administration ("FTA") Grant Agreement NY-43-0005, incorporated herein by reference, and associated federal rules and regulations. It is anticipated that the transfer contemplated in this MOU between LMCCC and NYCDOT will occur on December 31, 2010, upon the expiration of the Executive Orders, defined in the "Background" section of this MOU, or upon the expiration of any future extension of such Executive Orders, whichever is later. This asset transfer shall be subject to the approval of the Board of Directors of the Lower Manhattan Development Corporation prior to the date of transfer.

Unless otherwise amended by mutual written consent of both parties, LMCCC has installed or will cause to be installed as part of this Grant Agreement the following, inclusive of telecommunications and other support equipment associated with each asset (collectively, the "ITS Equipment"):

1.1 27 Traffic Monitoring Cameras – These cameras to be deployed at key intersections throughout Lower Manhattan to monitor traffic conditions. They have full pan/zoom/tilt capabilities to see in all directions.

- 1.2 <u>8 Variable Message Sign Boards</u> These boards to be installed at key locations in and around Lower Manhattan to provide the public with real-time information on driving conditions in Lower Manhattan.
- 1.3 <u>13 Transponder Readers</u> The readers to be installed at key locations in and around Lower Manhattan to collect origin and destination data for the purpose of calibrating NYCDOT's traffic model, which LMCCC will also use.
- 1.4 <u>Highway Advisory Radio Broadcast Stations</u> A system of two broadcast boxes to be deployed in Lower Manhattan to provide real-time information on driving conditions in Lower Manhattan.
- 1.5 32 Video Detection Cameras These cameras, in conjunction with the microwave traffic sensors described below, to be deployed at key intersections throughout Lower Manhattan to collect traffic speed and volume data. Video detection cameras are different from traffic monitoring cameras in that they must remain in a fixed position and thus cannot pan, zoom or tilt.
- 1.6 <u>120 Microwave Detectors</u> These sensors, in conjunction with the video detection cameras described above, to be deployed at key intersections throughout Lower Manhattan to collect traffic speed and volume data.
- 1.7 <u>Central Equipment</u> Located at the NYCDOT's Traffic Management Center located at 28-11 Queens Boulevard North, Long Island City, NY 11101, these systems process the data from the equipment listed above.

2. BACKGROUND

LMCCC was established on November 22, 2004 in accordance with the terms of Executive Order No. 133 of the Executive Chamber of the State of New York, which was renewed by subsequent orders, and Executive Order No. 53 of the Office of the Mayor of the City of New York (collectively, the "Executive Orders"). LMCCC's mission, set

forth by the Executive Orders, is to facilitate construction activities, to mitigate their impacts on the community, and to communicate with the public about the effects of ongoing and anticipated construction activities. LMCCC brings together private developers, public agencies, utilities, businesses and residents to coordinate billions of dollars in construction and mitigate the impact of that construction on the multiple stakeholders.

Traffic Management is one of LMCCC's most important functions, and the ITS system contemplated in this MOU is an integral part of LMCCC's traffic management program. The system provides real-time traffic information to LMCCC, City and State agencies and the general public in order to ease congestion during the reconstruction of the World Trade Center and other major Lower Manhattan construction projects. The ITS system enables LMCCC and appropriate agencies to identify and respond rapidly to traffic issues as they emerge, facilitates the development and implementation of MPT plans, and aids in the enforcement of construction permits.

The ITS system contemplated in this MOU between LMCCC and NYCDOT is the first phase of a larger ITS system that NYCDOT plans to install in the future. NYCDOT is therefore the logical recipient of all assets associated with LMCCC's ITS system, as defined in the attached Asset Management Plan, dated April 7, 2009 (Exhibit 1), or subsequent amendments thereto (the "Asset Management Plan"), when LMCCC sunsets on December 31, 2010, upon the expiration of the Executive Orders, or upon the expiration of any future extension of such orders, whichever is later. On December 19, 2006, a non-binding letter of intent to enter into this Memorandum of Understanding was issued by NYCDOT (Exhibit 2).

3. TERMS OF UNDERSTANDING

By entering into this MOU, both parties agree as follows:

- 3.1 LMCCC and its consultants will continue to manage all ITS Equipment installed or to be installed as part of the FTA Grant Agreement and in accordance with the Asset Management Plan until the expiration of the Executive Orders on December 31, 2010, or until the expiration of any future extension of such Executive Orders, whichever is later, whereupon LMCCC will transfer the ITS Equipment to NYCDOT.
- 3.2 LMCCC and its consultants will maintain all of the ITS Equipment as required by the terms of the FTA Grant Agreement until the expiration of the Executive Orders on December 31, 2010, or until the expiration of any future extension of such Executive Orders, whichever is later, whereupon asset maintenance responsibilities will be transferred to NYCDOT.
- 3.3 NYCDOT will assume ownership of all ITS Equipment as defined in the Asset Management Plan upon expiration of the Executive Orders on December 31, 2010, or upon the expiration of any future extension of such Executive Orders, whichever is later, and will provide a written letter of acceptance (substantially similar to the sample letter in Exhibit 3) to FTA and LMCCC acknowledging the receipt of said ITS Equipment on or before such expiration.
- 3.4 NYCDOT will accept all of the ITS Equipment installed as part of the FTA Grant Agreement "as is," with no representations or warranties by LMCCC, with the exception of any manufacturer's warranties provided to LMCCC by the manufacturer of the ITS Equipment.
- 3.5 NYCDOT will assume maintenance responsibilities for all ITS Equipment installed as part of the FTA Grant Agreement and will use its best efforts to continue to use the equipment in a manner consistent with and

substantially similar to LMCCC's use of the ITS Equipment for the remainder of such equipment's useful life as defined in the Asset Management Plan. NYCDOT may not under any circumstances use the ITS equipment for traffic enforcement purposes.

3.6 NYCDOT will assume LMCCC's FTA Grant Agreement responsibilities and continue to provide oversight, monitoring, and maintenance for the remainder of the ITS Equipment's useful life and report to the FTA in a manner consistent with the original Grant Agreement.

4. AUTHORIZATION

IN WITNESS WHEREOF, the parties to this MOU through their duly authorized representatives have executed this MOU on the days and dates set out below, and certify that they have read, understood, and agreed to the terms and conditions of this MOU as set forth herein.

Signature	Lus Serrekes	Signature	Shell Harry P.E
Name 1	413 SANCHESO	Name	Robert N. Harrey P.F.
Title Fow	en April Boro Commission	Title EX	ecutive Director
Agency	New York City Department of Transportation	Agency	Lower Manhattan Construction Command Center
Date	3/18/19	Date	3/18/10

Exhibit 1
Asset Management Plan





Lower Manhattan Construction Command Center Intelligent Transportation System (ITS): <u>Asset Management Plan</u>

The Lower Manhattan Construction Command Center (LMCCC) coordinates and oversees all major construction projects in Lower Manhattan south of Canal Street, from river to river. LMCCC's mission, as set forth by joint Executive Orders by the Governor of the State of New York and the Mayor of the City of New York, is to facilitate construction activities, preserve and enhance the quality of life of Lower Manhattan residents, and maintain an ongoing dialogue with the community about how to ameliorate the negative impacts of construction as the area undergoes one of biggest and most dynamic urban redevelopment projects in American history.

LMCCC has identified traffic management as one of its highest priorities and as a critical component of the successful downtown reconstruction effort. In order to achieve its goals for maintaining mobility in Lower Manhattan, LMCCC, in conjunction with the New York City Department of Transportation (NYCDOT), the New York Police Department and the New York City Department of Buildings, has developed a comprehensive Traffic Management Plan. The Intelligent Transportation System (ITS) is a critical component of this plan.

Utilizing funds provided by the Federal Transportation Administration, the ITS is designed to facilitate the smooth flow of traffic in Lower Manhattan through a network of 27 traffic monitoring cameras, 155 vehicle detection sensors, 8 variable message signs (VMS), 13 transponder readers, and 2 highway advisory radio stations (HAR). To date, LMCCC has installed 27 traffic monitoring cameras, 8 VMS boards, 1 HAR broadcast station and 13 transponder readers.



The ITS system provides up-to-the-minute traffic information to the public, LMCCC, and the NYCDOT Traffic Management Center ("TMC") in Long Island City from which appropriate resources can be marshaled to tackle delays and other traffic impediments. In order to provide maximum flexibility in the placement of ITS system assets, all assets communicate with and are controlled wirelessly by the TMC.

The attached tables cover LMCCC ITS assets installed to date. A summary of the categories included in the tables is provided below:

Location

Location refers to the physical location of an asset in the field.

Owner

All assets found in the four tables are currently owned by LMCCC and will eventually be owned by CDOT when LMCCC sunsets.

Identification Number

The identification number refers to the individual number assigned to an asset within the TMC database. ID numbers correspond to an asset's location in the field.

Source of Property

The source of property is identified by the FTA grant project number: NY-43-0005

Acquisition Date

The acquisition date refers to the date of purchase (i.e. the date the manufacturer's warranty went into effect).



Cost

Cost refers solely to the amount paid for a particular asset.

% of Federal Participation in the Cost

The FTA grant accounts for 100 percent of funding for all assets listed in the four tables.

Use and Condition

All of the assets reflected in the tables were recently purchased and therefore listed as "new."

Useful Life

Useful life refers to the life expectancy of a particular asset. In each case this value was determined by JHK Engineering using information drawn from USDOT document, "ITS Benefits, Costs, Deployment, and Lessons Learned, 2008 Update", FHWA-JPO-08-032, which provides guidance on the expected life of ITS hardware.

Manufacturer's Warranty

The warranty refers to the length of time a particular asset is covered by the manufacturer for the repair or replacement of defective parts.

The ITS Asset Management Plan will be updated every two years by LMCCC unless circumstances warrant otherwise.

Signature:

Heiman Representative LACCC Representative:

CCTV

Disposition Data Manufacturer's Warranty 3 Year 3 Yeer 3 Year Useful His 10 5 10 10 10 10 10 10 9 10 10 10 10 10 10 10 10 10 10 10 10 10 0 2 10 10 10 **Use and Condition** New New New New Y 100 Nest New New Now New New Non New Now New New Now New New New. Now Non Now Now New % of Federal perticipation in the cost 100% 100E 100% 100% \$7,762.95 \$7,762.85 \$7,782.95 \$7,762.96 \$7,762,95 \$7,782.95 \$7,782.95 \$7,782.95 \$7,782,85 \$7,782.95 \$7,762.95 \$7,782.95 \$7,762.95 \$7,762.95 \$7,782.85 \$7,782.95 \$7,762,85 \$7,782.95 \$7,762.95 \$7,782.95 \$7,782.95 \$7,782.85 \$7,782.95 \$7,762.95 \$7,782,95 \$7,782.95 \$7,782.95 500 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2006 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2008 1/21/2006 1/21/2008 1/21/2008 1/21/2008 1/21/2006 1/21/2008 1/21/2006 1/21/2008 NY-43-0005 MY-43-0005 NY-43-0005 HL D032607 HLD027807 HLD011808 ML0026907 HL0017807 HL0010908 HLD018807 HL0162908 HL0015807 HL0011807 HL0035807 HL0024807 HL0033807 HL0031807 HL0020607 H_0034907 HL0019907 HL0014807 HL0028807 HL0013807 HL0029907 HL0023807 HL0030807 HL0018807 HI0183806 HL0021807 H_D025807 LMCCC/CDOT LMCCC/CDOT LMCCCACDOT UNCCC/CDOT LMCCC/CDOT LMCCC/CDOT LMCCC/CDOT LMCCC/CDOT LMCCCACDOT LMCCC/CDOT LMCCC/CDOT LMCCCACDOT LMCCC/CDOT LACCC/CDOT UNICCONCIDET LMCCC/CDOT LMCCCCCDOT LMCCCACDOT LINCOCYCDOT LMCCC/CDOT LMCCC/CDOT LMCCC/CDOT LMCCCACOOT LMCCC/CDOT UMCCC/CDOT LACCCACOOT LMCCCACDOT W Broadway & Grant St. Verick St & Dominick St. Broadway & Greenwich St. Worth St & W. Broadwey. Broadway & Frenklin St. Broadwiny & Howard St. Canal St & Hudson St. Church St & Frenklin St. St James & Chetam Sq. South St & Brosd St. Broad St & Beaver St. Wester St & Fulton St. Worth St & Centre St. Church St & Park Pt. Trinity Pt & Rector St. Broadway & Pine St. Broadway & Vesey St. Majden I.n & Gold St. Varick St & Beach St. Whitehas & State St. Water St & Well St. Chembers SI & W. Broadmey. Manhattan Bridge 9A & Hamison St. Brootdyn Bridge BA & Vesey St. 9A & Albany St. 8 16 ... U 13 7 135 17 하 2 R 7 28 -2 4 40 9 60 • 10 7 12 23 Z

Disposition Data Manufacturer's Warranty 1 Year Useful life 14 4 14 4 14 4 14 4 % of Federal participation in the cost Use and Condition New New New New New New New New 100% 100% 100% 100% 100% 100% 100% 100% \$27,331.65 \$27,331.65 \$27,331.65 \$27,331.65 \$27,331.85 \$27,331.65 \$27,331.85 \$27,331.65 Cost Acquisition date 10/23/2008 10/23/2008 10/23/2008 10/23/2008 10/23/2008 10/23/2008 10/23/2008 10/23/2008 Source of property NY-43-0005 NY-43-0005 NY-43-0005 NY-43-0005 NY-43-0005 NY-43-0005 NY-43-0005 NY-43-0005 identification # 739324624 739324928 739324929 739324109 739324913 7393240900 739324897 739324886 Broadaway Bet. Chambers and Reade LMCCC/CDOT BQE& Allantic Ave. LMCCC/CDOT Broadway Bel. Spring LMCCC/CDOT LMCCC/CDOT LMCCCACDOT FDR. Bet. Exti 7 & 6 | LMCCC/CDOT LMCCCCCDOT LMCCC/CDOT 9A & N. Moore St. 9A & Perry St. 9A & Morris St. 9A & BBT Ext Location 9 85 10

VMS

Signafura

Skoneture

Date:

Date:

Heliman Representative:

LMCCC Representative:

Transponder Readers

*	Location	Owmer	Identification number	Source of property	Acquisition data	Coet	% of Federal participation in the cost Use and Condition	Use and Condition	Useful life	Manufacturer's Warrenty	Disposition Data
-	9A & Watte St.	LMCCCACDOT	1208005	NY-43-0005	10/16/2008	\$18,764.35	100%	New	10	1 Year	
13	9A & Spring St.	LMCCC/CDOT	4107009	NY-43-0005	10/16/2008	\$18,784.35	100%	New	10	1 Year	
3	9A & Gansevoort St.	LMCCC/CDOT	1208008	NY-43-0005	10/16/2008	\$18,784.35	100%	Mew	10	1 Year	
4	Battery PI & 9A	LMCCC/CDOT	1208003	NY-43-0005	1/8/2009	\$18,784.35	100%	New	10	1 Year	
10	Whitehalf St & South St.	LMCCC/CDOT	1208004	NY-43-0005	1/9/2009	\$18,784.35	%20.	New	10	1 Year	
80	Brooklyn Bridge	LMCCC/CDOT	4707031	NY-43-0006	10/16/2008	\$18,784.35	100%	New	10	1 Year	
7	9A & 40 S1.	LMCCC/CDOT	1208002	NY-43-0005	1/9/2009	\$18,784.35	100%	New	10	1 Year	
180	FDR & Celherine Skp	LMCCCACDOT	4107010	NY-43-0005	10/16/2008	\$18,784.35	100%	New	10	1 Year	
60	Manhettan Bridge	LMCCCACDOT	1208807	NY-43-0005	10/16/2008	\$18,784.35	100%	New	10	1 Year	
10	9A & 57 St.	LMCCCCCDOT	1208006	NY-43-0005	1/9/2008	\$18,784.35	100%	New	10	1 Year	
1	9A & 45 St.	LMCCCCCDOT	4107014	NY-43-0005	1/9/2008	\$18,784.35	100%	New	10	1 Year	
12	9A & 63 St.	LMCCC/CDOT	4107005	NY-43-0005	10/16/2008	\$18.784.35	100%	Mew	10	1 Year	
13	9A & 25 St.	LMCCC/CDOT	4107011	NY-43-0005	10/16/2008	\$18 784 35	100%	WEN	10	1 Year	

Skenahare

Skaneture

LMCCC Representative:

Helman Rouresenbalive:



HAR

ב	Location	Owner	r Identification number	Source of property	Acquisition data	Cost	% of Federal participation in the cost	Use and Condition	Useful life	Menufacturer's Warranty	Disposition Data
9A	9A & Watts St.	UNCCC/CDOT	HAR-1 NY	NY-43-0005	4/16/2008	\$34,802.00	100%	New	82	5 Year	
2 FDR & Montg	Mortgomery St.	LMCCC/CDOT	HAR-2	NY-43-0005	4/16/2008	\$34,802.00	%001	New	20	5 Year	

Date:

Signature:

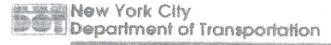
LMCCC Representative:

Heliman Representative:

Slonathre:

200

Exhibit 2
December 19, 2006 NYCDOT Letter of Intent



Office of the Lower Menhattan Borough Commissioner 40 Worth Street 10th Floor New York, New York 10013 Tel. 212/788-8989 Fax 212/788-8986

Irls Weinshall, Commissioner

Web www nyc govidat

December 19, 2006

Charles J. Markish
Executive Director
Lower Manhattan Construction Command Center
One Liberty Pizza, 29th Floor
New York, New York, 10006

Dear Mr. Markish

The New York City Department of Transportation ("NYCDOT") intends to enter into a Memorandom of Understanding ("MOU") with the Lower Manhattan Construction Command Center ("LMCCC") regarding the anticipated transfer of the equipment described below, as follows:

- LMCCC was established on November 22, 2004 in accordance with the terms of Executive Order No. 133 of the Executive Chamber of the State of New York and Executive Order No. 53 of the Office of the Mayor of the City of New York (collectively, the "Orders");
- I MCCC has caused or will cause to be installed certain Intelligent Transportation System equipment as described below (the "ITS Equipment"), such installation to be completed prior to December 31, 2010.
- Upon the expiration of the Orders on December 31, 2010, or any future extension of social orders, it is anticipated that LMCCC will transfer to NYCDOT all the ITS Equipment;
- NYCDO1 will accept the ITS Equipment "as is," with no representations or warranties by LMCCC, with the exception of any manufacturer's warranties provided to LMCCC by the manufacturer of the ITS Equipment, and will use its best efforts to continue to use the ITS Equipment in a manner substantially similar to LMCCC's use of such equipment for remainder of such equipment's useful life; and
- NYCDOT will assume LMCCC's Federal Transit Administration (FTA) grant responsibilities
 and continue to provide oversight, monitoring and maintenance for the remainder of the
 equipment's useful life and report to the FTA as required. A supplemental agreement between
 FTA, LMCCC, and NYCDOT will set forth the assumption of grant responsibilities by
 NYCDOT

NYCDOT understands that the equipment LMCCC expects to install will include:

- Approximately 27 fraffic Montgring Cameras—These cameras will be deployed at segintersections throughout I own Manhattan to monitor traffic conditions. They will have full pair zoometilt capabilities to see in all directions.
- Approximately 30 Video Detection Camerus These cameras, in conjunction with the interowave traffic sensors described below, will be deployed at key intersections throughout it over Manhattan to collect traffic speed and volume data. Video detection cameras are different from traffic monitoring cameras in that they must remain in a fixed position and thus cannot pan zoom or till.
- Approximately 125 Microwave Sensors These sensors, in conjunction with the statest detection cameras described above, will be deployed at key intersections throughout Lower Manhattan to collect traffic speed and volume data.

- Approximately 8 Variable Message Step (VMS) Boards. These boards will be installed at key locations in and around Lower Manhattan to provide the public with real-time information on driving conditions in Lower Manhattan.
- Highway Advisory Radio A system of 1-3 broadcast boxes will be deployed in Lower Manhattan to provide real-time information on driving conditions in Lower Manhattan.
- Approximately 13 (ransponder legalers—The readers will be installed to key only) exit points to Lower Manhattan to collect origin and destination data for the purpose of entibrating NYCOOT a traffic model, which CMCC will also use
- Computer Systems. Hosted at NYCDOT's Traffic Management Center (TMC) in Long (dailed City, these systems will process the data from the equipment listed above.

This letter of intent is non-building and subject to the negonation, execution and delivery of the MOU and the agreements and documents contemplated thereunder. The transfer of the ITS Equipment will not take place until LMCCC and NYCOCII execute these documents after FTA review and approval. The MOU, agreements and documents referenced herein shall be executed within one year of the signing of this letter of intent.

Please lead free to contact my office if you have any questions,

YOU KILL YOUR

Laws Andhor

Lower Manhattan Borough Commissioner

'ma in dish

Lie TDL Hergitalini 194 Universités, Franci Lisposité, John Espikhe

Exhibit 3
Sample NYCDOT Acceptance Letter

LOGO: NYCDOT

Name Date

Re: NYCDOT Ownership of Intelligent Transportation System Assets

To: LMCCC, FTA

By this letter, NYCDOT formally acknowledges that upon the expiration of the Lower Manhattan Construction Command Center ("LMCCC") Executive Orders on (insert date – tbd), the agency will assume ownership of and responsibilities for all LMCCC Intelligent Transportation System ("ITS") assets, as outlined in the (dated – tbd) Memorandum of Understanding ("MOU") between NYCDOT and LMCCC. The federal assets accepted include the following:

- 27 Wireless Traffic Monitoring Cameras
- 8 Variable Message Sign Boards
- 13 Transponder Readers
- 2 Highway Advisory Radio Broadcast Stations
- 32 Video Detection Cameras
- 120 Microwave Detectors
- Central Equipment at the Traffic Management Center located at 28-11
 Oucens Boulevard N

NYCDOT hereby confirms that it shall perform all of its obligations set forth in the MOU (a copy of which is attached hereto). Please acknowledge this written notification of NYCDOT's receipt and ownership of the above assets by signing below and return the signed copy to NYCDOT.

Feel free to contact my office if you have any questions.

Sincerely,

New York City Department of Transportation

Name	Mander entre organisment
Title	
Date	

Acknowledged:		Adam and a second
	Lower Manhattan Construction Command Center Date:	Rise の (行業 (5.5) (前の (1.4 KM) (前の (1.4 KM) (1.4 KM
Concurrence:		00000000000000000000000000000000000000
	Federal Transportation Administration Date:	80-040-0-1 044-000-00-00-00-00-00-00-00-00-00-00-00