

Memo

To: Honorable Mayor and City Council
From: Joe Kohlmann, City Administrator
Date: October 14, 2014
Re: Birch Bluff Road – Traffic

Staff has conducted more research on the Birch Bluff traffic issue. Below are the findings Staff has uncovered to provide facts for the City Council to continue to evaluate this matter:

Data Accuracy

There were questions on the accuracy on the data provided from the SLMPD speed trailer. I was able to speak with Steve from Ru2 Systems (manufacturer of the speed trailer). We reviewed the raw data files sent over from the SLPMD together. He conceded that there was an over reporting of traffic during one hour on the data. This could likely be attributed to a large vehicle being parked in front of the trailer as it would pick up the motion of any fan on the vehicle. He then noted that any inaccuracy would likely be an overstatement of speed/traffic as opposed to an understatement of the traffic (for reasons explained above). Steve wrote the algorithm and programming for the trailer.

Staff also received information from the SLMPD. They noted that the speed trailer is calibrated before and after each setup. There are also tuning forks in each squad car. Battery life is thought not to be an issue as it is designed for measuring traffic for extended periods of time.

Traffic Study

Staff received a quote from WSB to conduct a traffic study on Birch Bluff and Pleasant. Data would be collected at midpoints on Birch Bluff and Pleasant. Also, data would be collected at the intersection of Birch Bluff and Pleasant to measure “pass through” vehicles to Shorewood. Data would be collected for 14 days with no changes and 14 days once Birch Bluff is blocked off (at Shorewood

Boarder). The Cost is **\$4,095**. No funds have been dedicated in 2014 or 2015.
*Note the timeline disclaimer by the Engineer in his email.

Speed Trailer

Staff also received quotes on a speed trailer. If the City were to purchase a trailer, unlimited amounts of traffic counts could be conducted by the City. The *attached quote* provides an estimated cost of **\$7,595**. No funds have been identified for this purchase in 2014 or 2015. However, current Staff would be responsible for updating and maintaining the device and any potential software additions.

Attached is the Traffic Study quote from WSB.

Attached is the quote from Ru2 Systems for a speed trailer.

Attached is the speed data for Birch Bluff Road and Pleasant Avenue

Council Action Requested:

Review the updated Staff findings and direct Staff how to proceed.

Joe Kohlmann

From: Justin Messner <jmessner@wsbeng.com>
Sent: Monday, October 06, 2014 9:24 AM
To: Joe Kohlmann
Subject: Birch Bluff Traffic Study
Attachments: LTR PROP-Tonka Bay-BirchBluffTraffic-100614Rev.pdf

Joe,

Attached please find the proposal for traffic study on Birch Bluff revised to include longer durations of counts and additional locations as requested. I am not able to extend the study to 30 days each phase unless we wait until spring. Even this may be pushing it if we get an early snow. Let me know your thoughts.

Thank you.

Justin Messner, PE
Municipal Project Manager
d: 651-286-8465 | c: 612-388-9652
WSB & Associates, Inc. | 477 Temperance Street | St. Paul, MN 55101



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engineering • planning • environmental • construction

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October 6, 2014

Mr. Joseph Kohlmann
City Administrator
City of Tonka Bay
4901 Manitou Road
Tonka Bay, MN 55331

Re: Proposal to Provide a Traffic Study of Birch Bluff Road
City of Tonka Bay, MN

Dear Mr. Kohlmann:

WSB & Associates, Inc. (WSB) is pleased to provide you with the following proposal for a traffic study for the City of Tonka Bay. The traffic study will collect existing traffic data at three locations on Birch Bluff Road and Pleasant Avenue. The three locations identified for data collection are as follows:

- Birch Bluff Road 1,500-feet south of the intersection with Manitou Road (mid-block).
- Pleasant Avenue 1,100-feet west of the intersection with Birch Bluff Road (mid-block).
- Birch Bluff Road 50-feet east of the intersection with Pleasant Avenue.

Data collection at each location will be completed in two phases. The first phase of data collection will be under existing conditions. The second phase of data collection will take place following a temporary closure at the south end of Birch Bluff Road.

The traffic data collected will include daily vehicle counts as well as vehicle speed. The proposed data collection locations will assist in determining the number of "pass through" vehicles entering the City of Shorewood.

It is our understanding the City of Tonka Bay will conduct the temporary closure of Birch Bluff Road and notify local residents and emergency response agencies.

The proposed scope of services presented in this proposal is based on discussions with City Staff and review of maps.

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Equal Opportunity Employer
wsbeng.com



RU2 Fast-820

RU2 Systems, Inc.

The Leader in Speed Display Technology

RU2 Fast-820

Radar Speed Display Trailer



The RU2 Fast 820 Radar Speed Display Trailer features a 18" tall full matrix character display for easy viewing and quick driver recognition over 1200 feet down range. When deployed the Fast 820 stands over 8 feet tall. The speed limit sign folds down creating a lower trailer profile for easy transport and storage. Standard features include adjustable high and low blanking speeds, flashing digit violator alert and, traffic management arrows.

Popular options include our enhanced violator alerts, a flashing strip of red and blue LED's and/or the "SLOW DOWN" message in red LED's, when an approaching vehicle does not heed the flashing digit alert. Also available is the RU2 System's "Traffic Count" Data Acquisition Package, which records the time, date and speed of oncoming vehicles without the use of cumbersome pneumatic tubes placed across the street!

RU2 Systems: The Industry Leader in Speed Display Technology

2631 North Ogden Road, Mesa, AZ 85215

[P] 480-982-2107 [F] 480-982-5237

Toll Free 877-982-2107

e-mail: info@ru2systems.com www.ru2systems.com

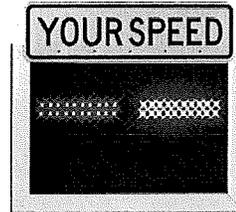


RU2 Fast-820

Radar Speed Display Trailer

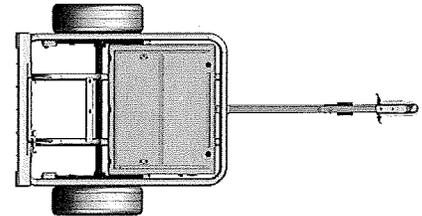
Standard Features:

- Single directional K-band radar unit
- 18" Amber AllnGaP LED display characters
- Display protected by 3/16" GE Lexan® with a smoked, non-glare finish
- Automatic intensity adjustment to ambient light conditions
- Fold down speed sign rack / 24" x 30" speed sign
- Keyed On/Off switch
- One (1) 92 A/hr AGM aviation grade battery (7 to 10 days service between charging)
- Single cycle ON/OFF clock
- Flashing Digit Violator Alert
- Directional Traffic Arrow Patterns
- Minimum Display Speed / High Speed Cut-off
- Unit defaults to last settings upon power up
- Sports mode
- KPH & MPH Modes
- Built in diagnostics



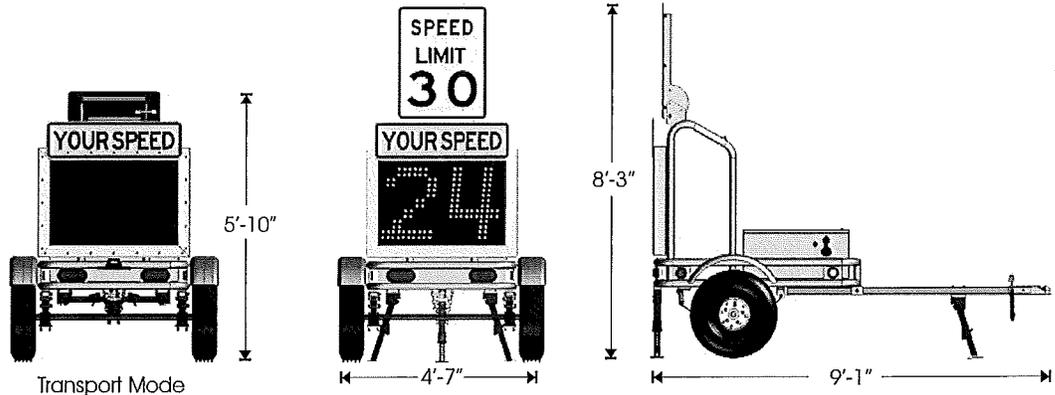
Construction:

- 2"Ø tubular steel space-frame chassis
- White polyester powder coat finish over high zinc epoxy primer
- (3) Stabilizer jacks with a 750 lb capacity each. Capable of raising the trailer up to 8" from normal height
- 4.80 x 13 ST tires on 5 lug automotive type hubs
- 2" Class II ball coupler
- Full 7" wide, 14 gauge steel fenders
- 2000 lb rated axle
- Leaf spring suspension
- Taper roller bearings
- Curb Weight: 565 lbs. / ~40 lb. Tongue weight



Options:

- Violator alerts*
 - ♦ "SLOW DOWN"
 - ♦ Red-Blue Flashing Bars
 - ♦ White LED Flashing Strobe
- RU2 "Traffic Count" Statistics Package
- Spare tire with mounting kit
- Additional batteries for extended deployment
- Solar panel - 50W
- Machined aluminum wheels
- Trailer cover
- Locking lug nuts
- Coupler lock
- "Tire Claw" wheel lock
- ArrowTrack GPS asset tracking system



WARRANTY:

RU2 Systems warrants their LED Displays for Five Years. The Radar Gun is warranted for Two years. On-site labor is not included. However, parts are repaired within five business days of receipt, and include ground-shipping expenses. Warranty does not include physical damage from misuse or vandalism.

RU2 Systems, Inc.
2631 N. Ogden Road
Mesa, AZ 85215

[P] 480-982-2107 [F] 480-982-5237
Toll Free 877-982-2107
www.ru2systems.com



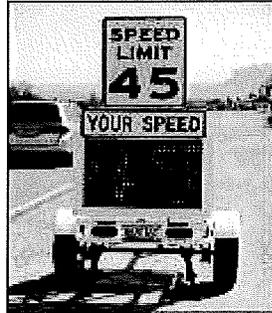
RU2 Systems, Inc.

The Leader in Speed Display Technology

2631 N. Ogden Road, Mesa, AZ 85215 • P 480-982-2107 • F 480-982-5237

Proposal For:

City of Tonka Bay
 Joe Kohlmann
 4901 Manitou Road
 Tonka Bay, MN 55331
 USA



Quote # JLGQ9961
 Issue Date: 09/16/14
 Quote Expires: 11/15/14
 Fax:
 Pages: 8
 Email: jkohlmann@cityoftonkabay.net

Line	Qty	Description	Unit Price	Ext. Price
1	1	The RU2 Fast 820 Radar Speed Display Trailer features a 18" tall full matrix character display for easy viewing and quick driver recognition over 1200 feet down range. This trailer is ideal for both busy thoroughfares and community streets where speeding is a problem. Effortlessly towed with a passenger vehicle, this trailer can be easily repositioned throughout a neighborhood for maximum effectiveness. When deployed the Fast 820 stands over 8 feet tall. The MUTCD conforming speed sign section folds down creating a lower trailer profile for easy transport and storage. Standard features include adjustable high and low blanking speeds, flashing digit violator alert and, traffic management arrows. Expect approximately ten (10) days of service from a full charge and is virtually field autonomous with optional solar panel under many conditions.	6,895.00	6,895.00

STANDARD FEATURES:

- Curb Weight: 565 lbs. / ~30 lb. Tongue weight
- 2" tubular steel space-frame chassis
- UV and graffiti resistant white powder coat finish over high zinc primer
- Keyed On/Off switch
- Single directional K-band radar unit
- 18" Amber AlInGaP LED display characters
- RF fob for remote parameter set up, 100+ ft. range.
- Automatic intensity adjustment to ambient light conditions
- Display protected by 3/16" GE Lexan® with a smoked, non-glare finish
- 24" x 30" R2-1 Speed Limit sign / 5-65 MPH overlays
- Fold down speed sign rack
- 2-ton rated axle / 13" wheels equipped w/ ST rated tires and locking lugs
- 2" ball hitch coupler
- One (1) Group 27 99 A/hr AGM battery / 7-10 days operation
- Integrated 'smart' battery charger
- Single cycle ON/OFF clock
- Flashing Digit Violator Alert - 1 MPH increments
- Directional Traffic Management Arrow Patterns
- Minimum Display Speed / High-speed Blanking
- "Dark" mode for data collection (when applicable)
- Unit defaults to last settings upon power-up

Line	Qty	Description	Unit Price	Ext. Price
2	1	Crating: Fast-820/870	200.00	200.00

Please note shipping price below does not include any special or extra delivery services, i.e. lift gate services, call notification, or limited access delivery. If additional delivery services are needed, please request an update shipping quote.

3		SubTotal		7,095.00
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4		<<< OPTIONS >>>		
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5	0	Solar Power: 50 Watt panel for Fast-820	495.00	0.00
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6	0	Data Acquisition Package: First Seat	595.00	0.00
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This data acquisition package utilizes the streaming data received from the radar gun so that the deployment of pneumatic tubing is not required. Proprietary algorithms filter and analyze the data stream, detecting discrete oncoming vehicles that pass the location and records their speed with time/date stamps. Please note that single gun methodologies are situationally sensitive but have proven to provide data as accurate as any pneumatic method. Single gun technology is perfectly suited for determining peak load times and violation concentrations giving law enforcement agencies sufficient data for resource deployment. Please note that some system configurations may require external containment at a small additional cost.

Data is saved on an SD memory card. 2GB provided (~44M+ vehicle capacity per GB) and can be downloaded to any computer with the provided SD/USB card reader. The data can then be analyzed by software capable of accepting a comma delimited ASCII text file, such as Microsoft® Excel or RU2's Traffic Count Software package, included. The Traffic Count package allows examination of data exceeding Excel's 65,536 limitation. Tabulated reports and charts include Survey Summary, Vehicle Count, Speed, and Time/date, 85th Percentile, 15 Minute, 1 Hour, Daily and Weekly analysis, etc.

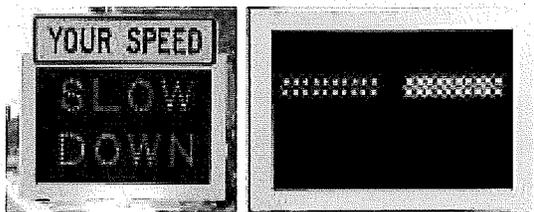
Included Reporting Capability:

- a) Survey Summary
 - a. Variable Display Scheme
 - b. Total Surveyed
 - c. Incremental Speed Grid (Speed, Volume, % of Survey)
 - d. Speed Statistics Summary
 - i. Posted Limit
 - ii. At/Under Limit Qty. / %
 - iii. Over Limit Qty. / %
 - iv. Average Speed
 - v. 85th Percentile
 - vi. Maximum Speed
 - e. 10 MPH Pace
 - i. Pace Range
 - ii. Number in Pace
 - iii. % in Pace
 - f. Number Exceeding Limit (+10, +20, +30..., Number & %)
- b) Vehicle Speeds Graph
- c) Daily Volume/Time Graph
- d) 85th Percentile Graph

Line	Qty	Description	Unit Price	Ext. Price
		<ul style="list-style-type: none"> e) 15 Minute Breakdown <ul style="list-style-type: none"> a. AM/PM Analysis <ul style="list-style-type: none"> i. Total ii. Peak Hour iii. Peak Flow iv. Peak % of AM v. Peak % to 24 Hr f) Weekly Summary - 4 Week Limit g) Time vs. Speed <ul style="list-style-type: none"> a. Hourly numeric breakdown h) Comparative Survey Analysis <ul style="list-style-type: none"> a. Virtual Week b. Dynamic/Survey Week c. Comparative Surveys d. Selective Time View (Time Slice) i) Estimated Revenue Calculator <ul style="list-style-type: none"> a. Client defined fine schedule x Efficiency over Survey Results 		

7	0	Data Acquisition Package: Additional Seats All of the hardware components reflected in the first seat combined with a site licenses for the data analysis software.	395.00	0.00
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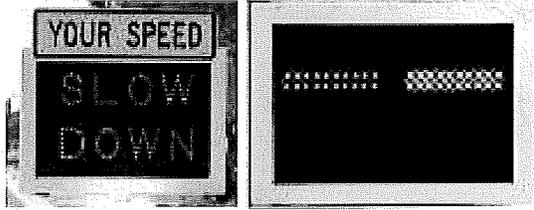
8	0	Violator Alert - Red LED "SLOW DOWN" 18" The display is equipped with a flashing "SLOW DOWN" message made of high intensity red LED's . The VA is activated by a vehicle exceeding a speed selected (in 1 MPH/KPH increments) by the operator. Once a reading from the radar registers above the selected speed, the violation lights are activated. The violator will see the flashing "SLOW DOWN" message on the display with no speed displayed. If the violator slows, the flashing message will stop and their speed is displayed again. If slowing continues until a speed is reached that is less than the set-point, the display will continue to show the speed being registered. If the violator maintains a speed higher than the setting for a time, the flashing message will come back on. If the violator increases speed while above the violation setting the message will come back on immediately. Available on models 350, 820, 870 & 1000.	375.00	0.00
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9	0	Violator Alert - Red & Blue LED Light Bars 18" The display is equipped with red and blue horizontal bars of high intensity LED's which alternate as they pulse. These are activated by a vehicle that exceeds the speed selected by the operator. The digital controller performs a test and scores the vehicle being monitored. Once a reading from the radar registers above the selected speed, the violation lights are activated. The violator will see flashing red and blue lights on the display with no speed displayed. This event initiates the scoring routine. If the violator slows, the flashing lights will stop and their speed is displayed again. If slowing continues until a speed is reached that is less than the set-point, the display will continue to show the speed being registered. If the violator maintains a speed higher than the setting for a time, the flashing lights will come back on. If the violator	375.00	0.00
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Line	Qty	Description	Unit Price	Ext. Price
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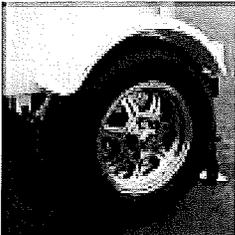
increases speed while above the violation setting the flashing lights will come back on immediately. Available on models 350, 820, 870 & 1000.



10	0	Violator Alert Discount: Buy both SLOW and Red/Blues Discount	-100.00	0.00
11	0	White LED Strobe Violator Alert (Flashes w/ Violation): On board 16 LED array module for long distance alert / photo radar simulation. Violator alert settable in 1 MPH increments by push button at power up.	300.00	0.00
12	0	One (1) additional 99 Ah Group 27 non-spillabe AGM battery for extended field autonomy (ea.). *Requires additional freight.	277.50	0.00
13	0	Two (2) additional 99 Ah Group 27 non-spillabe AGM batteries for extended field autonomy. Includes 2 bank charger upgrade. *Requires additional freight.	645.85	0.00
14	0	Three (3) additional 99 Ah Group 27 non-spillabe AGM batteries for extended field autonomy. Includes 3 bank charger upgrade. *Requires additional freight.	1,065.95	0.00
15	0	Spare tire (Fast-8XX option)	225.00	0.00
16	0	Replace your standard white spokes with these 13 inch SawTooth Aluminum Trailer Wheels; priced the pair.	300.00	0.00

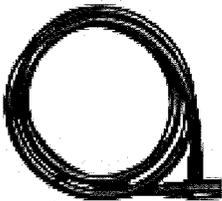


17	0	13 inch SawTooth Aluminum Trailer Wheel mounted as spare	300.00	0.00
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Line	Qty	Description	Unit Price	Ext. Price
18	0	Locking Lugnuts, Open Bulge, Per Pair	19.95	0.00
19	0	Cable Lock:	44.95	0.00

MasterLock, Kryptonite, Brinks or equivalent 6' x 5/8" locking cable for immobility by locking wheel to frame or fixed point. Braided steel wires for strength and flexibility, smoke vinyl coating helps prevent scratching. Comes with 2 keys.



20	0	The Club® Tire Claw XL #291	89.95	0.00
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The best way to avoid being the next victim is to make would-be thieves look for an easier target. With the Tire Claw mounted on your trailer, they'll keep

looking. This self-locking security device is made of heavy steel and features a tough, jiggle-proof lock and a laser-encrypted key. The rubberized coating

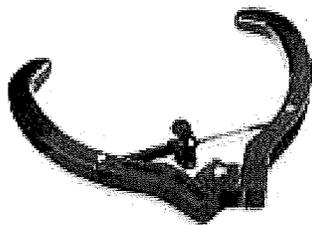
protects expensive wheels and hubcaps from damage. Fits tires up to 12" wide.

Highly visible - this strong visual deterrent alerts a potential thief that your car is protected.

Virtually impossible to defeat - time and effort are a thief's enemies. New and improved, solid steel hooks for even greater security.

- >>> Self-locking...installs in seconds
- >>> Black vinyl dip protects wheel rim
- >>> Laser encrypted key
- >>> Plastic cover protects the lock from the elements

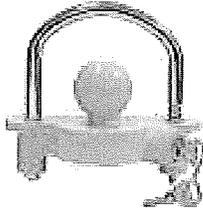
For use on Fast-820, Fast-870 & Fast-3XXX models.



21	0	Alarm System:	135.00	0.00
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The RU2 Fast Series Alarm System is a Audiovox Rampage car alarm with a tamper alert warning before alarming, remote activation, and adjustable sensitivity.

Line	Qty	Description	Unit Price	Ext. Price
22	0	Coupler Lock: Reese Lock 72783	35.00	0.00



23	0	ArrowTrack GPS Vehicle Theft Deterrent System:	595.00	0.00
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Theft is a huge problem! Commercial vehicles and equipment of every type are at risk for theft, including heavy construction equipment, tractor trailers, generators, trucks, vans, fleets of taxis, and rental vehicles. A 2005 Equipment Theft Survey done by Equipment Today magazine shows almost 72% of respondents have experienced equipment theft. When your equipment or vehicles are stolen, it stops your business and you lose time and money.

Industry leading GPS products from ArrowTrack allow users to effortlessly and in real-time locate their vehicle across our North American data network. Our industry defining equipment and world class infrastructure along with award winning customer service gives you the reliability you deserve while providing a leading-edge GPS tracking solution that is easy to use and affordable to own.

ALARM

Connect GPS device to aftermarket alarm and when door switch or siren is activated, the GPS will send an email and/or text alert. 1 Trak

AUTO-REPORT

System performs a daily locate on your vehicle. Once a month, this activity is recorded in your account history. 0 Trak

GEO-FENCE IN

An incoming GEO-Fence allows you to create a radius around an address. When vehicle enters this radius, GPS will send an alert. 1 Trak to Set, 1 Trak per Alert

GEO-FENCE OUT

An outgoing GEO-Fence allows you to create a radius around an address. When vehicle exits this radius, GPS will send an alert. 1 Trak to Set, 1 Trak per Alert

GET DRIVING DIRECTIONS

Whenever you view a map on your system, scroll to the bottom of the page to get driving directions from one address to another. 0 Trak

LOCATE

One click on the locate command and the system will find your vehicle, typically in about 20 seconds, it's location indicated by a colored dot. 1 Trak

HISTORY

The history section records account activity in a 1 or 2 line entry. You can click "MAP IT" to view the location of the event. 0 Trak

LOW INTERNAL BATTERY

Line	Qty	Description	Unit Price	Ext. Price
		When the vehicle battery and/or the GPS is disconnected, the internal battery in the GPS takes over. When battery is low, GPS will send an alert. 1 Trak		
		LOW VOLTAGE When vehicle battery drops below a certain level, an alert is sent. 1 Trak		
		MAXSPEED When MaxSpeed is programmed, you'll receive an alert when the vehicle exceeds that speed. 1 Trak to Set, 1 Trak per Alert		
		MOTION When your vehicle is moved, the system detects the motion and sends an alert. 0 Trak		
		POWER DISCONNECT This feature sends an alert when the GPS device or the vehicle battery is disconnected. 1 Trak		
		POWER RECONNECT This feature sends an alert when the GPS device or the vehicle battery is reconnected. 1 Trak		
		SLEEP MODE The GPS device will go to "sleep" after 15 minutes of inactivity to preserve the vehicle battery. To wake it up, move the vehicle. 0 Trak		
		TRAKS - HOW TO BUY MORE Go to www.arrowtrackgps.com and log onto your account. Go to the control panel on the left side and scroll down to Purchase Traks. \$1 per Trak		
		TRAKS - VIEW REMAINING Go to www.arrowtrackgps.com and log onto your account. The number of Traks you have available is displayed at the top of the control panel. 0 Trak		
		VEHICLE INFORMATION Important details of your vehicle are entered on this page for quick reference in the event vehicle is stolen. 0 Trak		
		EACH ARROWTRACK GPS COMES WITH:		
		> 500 Traks		
		> 1 year of Free Airtime		
		> Installation Instructions		
		> User Guide		
		> Customer/Technical Support Team		
24	0	Economy Trailer Cover: A generic small vehicle cover provided in neutral blue & gray. UV Protection * Water Repellent * Elastic Hem * Heat Resistant Panels * Storage Bag	39.95	0.00

Line	Qty	Description	Unit Price	Ext. Price
			SubTotal	7,095.00
			Shipping	500.00
			Sales Tax	0.00
			Total	7,595.00

WARRANTY: RU2 warrants their LED Displays for Five (5) Years excepting batteries (1 yr.). The radar device is warranted for Two (2) years. On-site labor is not included. However, parts are repaired within five business days of receipt, and include ground-shipping expenses. Warranty does not include physical damage from misuse or vandalism.

- A. Shipping, crating and applicable sales tax are not included in the above pricing unless specifically listed.
- B. Shipping quotes do not include liftgate or any additional services that may be required at destination.
- C. Sign to be shipped approx. 30 days after receipt of purchase order.
- D. Prepaid or Terms: 2% 10, Net 30 on approved credit



Sustaining Member



www.ru2systems.com

FEIN: 80-0017092