



User Guide

Copyrights

The following copyrights will apply to the extent your Licensed Product includes these features and/or data.

You may print one (1) copy of this document for your personal use. Otherwise, no part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, in any form or by any means electronic, mechanical, magnetic, optical, or otherwise, without prior written permission from ALK Technologies, Inc.

Copyright © 1986-2017 ALK Technologies, Inc. All Rights Reserved.

ALK Data © 2017 – All Rights Reserved.

ALK Technologies, Inc. reserves the right to make changes or improvements to its programs and documentation materials at any time and without prior notice.

PC*MILER®, CoPilot® Truck™, ALK®, RouteSync®, and TripDirect® are registered trademarks of ALK Technologies, Inc.

Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and other countries.

IBM is a registered trademark of International Business Machines Corporation.

Xceed Toolkit and AvalonDock Libraries Copyright © 1994-2016 Xceed Software Inc., all rights reserved. The Software is protected by Canadian and United States copyright laws, international treaties and other applicable national or international laws.

Satellite Imagery © DigitalGlobe, Inc. All Rights Reserved.

Weather data provided by Environment Canada (EC), U.S. National Weather Service (NWS), U.S. National Oceanic and Atmospheric Administration (NOAA), and AerisWeather. © Copyright 2017. All Rights Reserved.

Traffic information provided by INRIX © 2017. All rights reserved by INRIX, Inc.

Standard Point Location Codes (SPLC) data used in PC*MILER products is owned, maintained and copyrighted by the National Motor Freight Traffic Association, Inc.

Statistics Canada Postal Code™ Conversion File which is based on data licensed from Canada Post Corporation.

Natural Resources Canada information licensed under the Contains information licensed under the Open Government License – Canada. <http://open.canada.ca/en/open-government-licence-canada>

United Kingdom full postal code data supplied by Ordnance Survey Data © Crown copyright and database right 2017. OS OpenData™ is covered by either Crown Copyright, Crown Database copyright, or has been licensed to the Crown.

Certain Points of Interest (POI) data by Infogroup © Copyright 2017. All Rights Reserved.

Geographic feature POI data compiled by the U.S. Geological Survey.

Oil and Gas field content provided by GEOTrac Systems Inc. © Copyright 2017. All rights reserved.

Made with Natural Earth. Free vector and raster map data @ naturalearthdata.com.

Copyright HERE Data © 2017 – All rights Reserved. HERE Data © is subject to the terms set forth at http://corporate.navteq.com/supplier_terms.html.

Source of map data for Mexico provided by Instituto Nacional de Estadística y Geografía. The use of this information does not represent an official position by INEGI, nor does INEGI endorse, integrate, sponsor or support ALK Technologies, Inc.

Retail Fuel Prices for Pilot Flying J locations are subject to change and are subject to Pilot Flying J's disclaimer set forth at <http://www.pilotflyingj.com/disclaimer>.

National Elevation Data produced by the U.S. Geological Survey.

Geospatial Information Authority of Japan website (http://www.gsi.go.jp/kankyochiri/gm_japan_e.html).

Copyright SanGIS 2009 – All Rights Reserved.

Data provided by permission of King County, Washington.

Data provided by permission of © Jackson County, Georgia.

Table of Contents

PC*MILER® Product Line End User License Agreement.....	i
Chapter 1: Getting Started	1
1.1 Requirements	1
1.2 Installation.....	2
1.3 The DEMO.xlsx Sample Workbooks	2
1.4 Technical Support	3
1.5 Accessing User Guides for PC*MILER Products	3
1.6 Redistribution of PC*MILER Spreadsheets	4
1.7 Licensing.....	4
Chapter 2: Enabling and Disabling the Excel Add-In	5
2.1 To Enable the Add-In Manually	5
2.2 To Enable Autoloading of PC*MILER Spreadsheets.....	6
2.3 To Disable the Add-In Manually	7
2.4 To Disable Autoloading of PC*MILER Spreadsheets.....	7
2.5 Note on the PC*MILER Mapping Excel Add-In.....	7
Chapter 3: Using PC*MILER Spreadsheets	8
3.1 How to Format Cells and Enter a Formula	8
3.2 Time-Saving Tips.....	10
3.3 Getting the Miles Between Two Points	11
3.4 Using Mexican Postal Codes	14
3.5 Using 3-Digit ZIP Codes	15
3.6 Changing the “NL” Setting.....	15
3.7 Entering SPLC as Stops.....	16
3.8 Entering Latitude/Longitude Points as Stops.....	18
3.9 Worldwide Countries and European Postal Codes	20
3.10 Changing the Region.....	20
3.11 Switching the Data Set.....	21
3.12 Entering Location Names Containing Special Characters.....	22
3.13 Vehicle Dimension Options.....	23
3.14 Default Option Settings.....	25
3.15 Getting State/Country Distances with Toll Costs	25
3.16 Getting the Drive Time Between Two Points.....	27
3.17 Getting Toll Data	28
3.18 Calculating Air Distance.....	31
3.19 Ex Functions for Combination Route Types (<i>check with Tom</i>).....	32
3.20 Getting the City Name from a ZIP/Postal Code	33
3.21 Getting the ZIP/Postal Code from a City Name	34
3.22 Getting the Full ZIP/Postal Code and City Name.....	35
3.23 Getting the City Name/State/County from a Location	36
3.24 Getting a Latitude/Longitude from a Location	37
3.25 Getting a Place Name from a Latitude/Longitude	38

3.26	Getting a Latitude/Longitude from an Address	39
3.27	Getting an Address from a Latitude/Longitude	39
3.28	Multi-Stop Routes.....	40
3.29	Hub Routes.....	41
3.30	Getting Toll Data from Latitude/Longitudes	42
3.31	Using the Avoid/Favor/Override Roads Option	42
3.32	Using Hazardous Materials Compliant Routing.....	43
Chapter 4: Frequently Asked Questions		44
Appendix A: State/Province/Country Abbreviations		47
Appendix B: The PCMSERVE.INI File.....		57

PC*MILER® Product Line END-USER LICENSE AGREEMENT

1. **Grant of License:** Subject to the terms, conditions, use limitations and payment of fees as set forth herein, ALK Technologies, Inc. ("ALK") grants the end-user ("you") a non-assignable, non-transferable, non-exclusive license to install and use the PC*MILER solution(s) (including traffic data or any other subscriptions as applicable) you have purchased ("PC*MILER") on a single personal computer. The PC*MILER software, data and documentation are provided for your personal, internal use only and not for resale. They are protected by copyright held by ALK and its licensors and are subject to the following terms and conditions which are agreed to by you, on the one hand, and ALK and its licensors (including their licensors and suppliers) on the other hand.
2. **Title:** You acknowledge that the PC*MILER computer programs, data, concepts, graphics, documentation, manuals and other material owned by, developed by or licensed to ALK, including but not limited to program output (together, "program materials"), are the exclusive property of ALK or its licensors. You do not secure title to any PC*MILER program materials by virtue of this license.
3. **Copies:** You may make one (1) copy of the PC*MILER program materials, provided you retain such copy in your possession and use it solely for backup purposes. You agree to reproduce the copyright and other proprietary rights notices of ALK and its licensors on such a copy. Otherwise, you agree not to copy, reverse engineer, interrogate, or decode any PC*MILER program materials or attempt to defeat protection provided by ALK for preventing unauthorized copying or use of PC*MILER or to derive any source code or algorithms therefrom. You acknowledge that unauthorized use or reproduction of copies of any program materials or unauthorized transfer of any copy of the program materials is a serious crime and is grounds for suit for damages, injunctive relief and attorney's fees.
4. **Limitations on Transfer:** This license is granted to you by ALK. You may not directly or indirectly lease, sublicense, sell, disseminate, or otherwise transfer PC*MILER or any PC*MILER program materials to third parties, or offer information services to third parties utilizing the PC*MILER program materials without ALK's prior written consent. To comply with this limitation, you must uninstall and deactivate PC*MILER from your computer prior to selling or transferring that computer to a third party.
5. **Anti-Piracy Protection:** PC*MILER may include product activation and other technology to prevent unauthorized use and copying. If provided with an install product key code (the "Product Key Code"), or any other similar mechanism, you will need to activate PC*MILER with the associated method in order to use it. If you try to activate or install an excessive or unauthorized number of times or in an unauthorized environment, the ALK Anti-Piracy Protection may cause PC*MILER to lock and prevent you from further activating or using PC*MILER. Refer to ALK's help page at <https://activate.alk.com> for more information about our Product Activation and Anti-Piracy Protection.
6. **Limitations on Network Access:** You may not allow end-users or software applications on other computers or devices to directly or indirectly access this copy of PC*MILER via any

type of computer or communications network (including but not limited to local area networks, wide area networks, intranets, extranets, the internet, virtual private networks, Wi-Fi, Bluetooth, and cellular and satellite communications systems), using middleware (including but not limited to Citrix MetaFrame and Microsoft Terminal Server) or otherwise (including but not limited to access through PC*MILER interface products), or install or use PC*MILER on a network file server, without first notifying ALK, executing a written supplemental license agreement, and paying the license fee that corresponds to the number and types of uses to which access is to be allowed.

7. Limitations on Data Extraction: You may manually extract data (including but not limited to program output such as distances, maps, and driving directions) from PC*MILER and use it in other applications on the same computer on which PC*MILER is legally licensed and installed, as permitted below. You may not transfer data extracted from PC*MILER onto any other computer or device unless you have licensed PC*MILER for that computer or device. You agree that you will not, nor will you permit your trade partners or anyone else to, use content derived from PC*MILER, including route line data, nor display such data or integrate such data into another provider's service, including, but not limited to, Google or Bing. You agree not to pre-fetch, retrieve, cache, index, or store any data, content, or other portion of the product output at any time, provided, however, that you may temporarily store (for less than thirty (30) days) limited amounts of such content for the sole and exclusive purpose of enhancing the performance of your implementation due to network latency, and only if you do so securely and in a manner that: (a) does not permit use of the content outside of the scope of this Agreement; (b) does not manipulate or aggregate any content or portion thereof; (c) does not prevent ALK from accurately tracking usage; and (d) does not modify attribution of the product in any way.
8. Limitations on Mobile Communications: Without limiting the generality of the foregoing, you may not transmit PC*MILER street-level driving directions through mobile communications systems such as satellite, or cellular services or to mobile devices such as computers, telematics systems, on board or mobile computers or Smartphones, handhelds, pagers, electronic recording devices or telephones without first executing a written supplemental license agreement with ALK and paying the license fee that corresponds to the number and types of devices and systems to and through which transmission is to be permitted.
9. Limitations on Disclosure: You may disclose PC*MILER distances to trading partners, in the course of their providing services to you, for specific origin-destination moves for which you provide transportation services and use PC*MILER distances as a basis for payment. You may not make any other disclosure of PC*MILER programs and materials, including, but not limited to, program output, to anyone outside the legal entity that paid for and holds this license, without prior written permission of ALK. You acknowledge that the PC*MILER programs and materials, developed by or licensed to ALK are very valuable to ALK and its licensors, and their use or disclosure to third parties, except as permitted by this license or by a written supplemental license agreement with ALK, is strictly prohibited.
10. Security: You agree to take reasonable and prudent steps to safeguard the security of the PC*MILER program materials and to notify ALK immediately if you become aware of the theft or unauthorized possession, use, transfer or sale of the PC*MILER program materials licensed to you by ALK.

Acceptance: You are deemed to have accepted the PC*MILER program materials upon receipt.

12. Warranties: ALK represents and warrants that:

- a) For ninety (90) days from date of purchase, PC*MILER, when delivered and properly installed, will function substantially according to its specifications on a computer purchased independently by you.
- b) For ninety (90) days from date of purchase, the software media on which ALK provides PC*MILER to you will function substantially free of errors and defects. ALK will replace defective media during the warranty period at no charge to you unless the defect is the result of accident, abuse, or misapplication of the product.
- c) THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITING THE GENERALITY OF THE FOREGOING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. THE PC*MILER PROGRAM, DATA AND DOCUMENTATION IS SOLD "AS IS". IN NO EVENT SHALL ALK OR ITS LICENSORS BE LIABLE FOR ANY INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES SUCH AS, BUT NOT LIMITED TO, LOSS IN CONNECTION WITH OR ARISING OUT OF THE EXISTENCE OF THE FURNISHING, FUNCTIONING OR USE OF ANY ITEM OF SOFTWARE, DATA OR SERVICES PROVIDED FOR IN THIS AGREEMENT. IN NO EVENT SHALL DAMAGES TO WHICH ALK MAY BE SUBJECT UNDER THIS AGREEMENT EXCEED THE CONTRACT PRICE. THIS WARRANTY SHALL NOT ACCRUE TO THE BENEFIT OF THIRD PARTIES OR ASSIGNEES.

13. Disclaimer: The data may contain inaccurate, incomplete or untimely information due to the passage of time, changing circumstances, sources used and the nature of collecting comprehensive geographic data, any of which may lead to incorrect results. PC*MILER's suggested routings, fuel and traffic data are provided without a warranty of any kind. The user assumes full responsibility for any delay, expense, loss or damage that may occur as a result of their use.

14. Termination: This Agreement will terminate immediately upon any of the following events:

- a) If you seek an order for relief under the bankruptcy laws of the United States or similar laws of any other jurisdiction, or a composition with or assignment for the benefit of creditors, or dissolution or liquidation, or if proceedings under any bankruptcy or insolvency law are commenced against you and are not discharged within thirty (30) calendar days.
- b) If you materially breach any terms, conditions, use limitations, payment obligations, or any other terms of this Agreement.
- c) Upon expiration of any written supplemental license agreement between you and ALK of which this license is a part.

15. Obligations on Termination: Termination or expiration of this Agreement shall not be construed to release you from any obligations that existed prior to the date of such termination or expiration.

-
16. Hold Harmless and Indemnity: Except as otherwise provided in your agreement with ALK, the following article applies: To the maximum extent permitted by applicable law, you agree to hold harmless and indemnify ALK and its parent company, subsidiaries, affiliates, officers, agents, licensors, owners, co-branders, other partners, and employees from and against any third party claim (other than a third party claim for Intellectual Property Rights) arising from or in any way related to your use of PC*MILER, including any liability or expense arising from all claims, losses, damages (actual and/or consequential), suits, judgments, litigation costs and attorney's fees, of every kind and nature. ALK shall use good faith efforts to provide you with written notice of such claim, suit or action.
17. Disclosure for Products Containing Certain Data:
- a) Historical or Real-time Traffic data: traffic data, including historical traffic data, is licensed as an optional subscription service which must be renewed annually for continued use. ALK and its licensor(s) will use commercially reasonable efforts to make traffic data available at least 99.5% of the time each calendar month, excluding minor performance or technical issues as well as downtime attributable to necessary maintenance, and Force Majeure.
- This data is provided to you "as is," and you agree to use it at your own risk. ALK and its licensors (and their licensors and suppliers) make no guarantees, representations or warranties of any kind, express or implied, arising by law or otherwise, including but not limited to, content, quality, accuracy, completeness, effectiveness, reliability, fitness for a particular purpose, usefulness, use or results to be obtained from this Data, or that the Data or server will be uninterrupted or error-free.
18. Limitations on Export: You hereby expressly agree not to export PC*MILER, in whole or in part, or any data derived therefrom, in violation of any export or other laws or regulations of the United States. You acknowledge and agree that ALK commodities, technology or software that will be exported from the United States will be in accordance with U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited. Export or re-export of ALK goods may require an export license or may be prohibited as it pertains to commodities, technology or software of U.S. origin.
19. Aggregated Data: Except as otherwise provided in your agreement with ALK, the following article applies: ALK may, from time to time, share information about You with parent and sister or affiliated companies for business purposes and when necessary for it to perform work under this End User License Agreement. In addition, ALK may, and is hereby authorized to, use, share and provide certain aggregated, non-identifiable information derived from Your use of PC*MILER to third parties.
20. ALK Cloud Feature: ALK Cloud feature, if used, will store in an anonymized way Your data in a cloud account in order to allow You to securely synchronize Your data with other users in Your organization. End-User data is deemed the confidential information of the End-User. For more information, you may refer to ALK's Privacy Policy.
21. Internet-Based Services Components: Certain features of PC*MILER require connection to the Internet directly or through a wireless connection in order to function. Such features may result in the transfer of certain data over such connection, which may or may not be encrypted.

You are solely responsible for obtaining any necessary Internet, data or wireless subscription plans with the applicable service providers and you must comply with applicable third party terms of agreement when using PC*MILER. You further acknowledge that ALK is not responsible for the availability of the Internet or wireless connections or the security or integrity of data transmitted over such connections.

22. Geographic Restrictions: The Content and Services (as defined below) are provided for access for different areas in the world. You acknowledge and agree that you may not be able to access all or some of the same Content and Services depending as to where you are located in the world. Access to PC*MILER may not be legal by certain persons or in certain countries. At all times, you are responsible for compliance with local laws.
23. Content and Services: PC*MILER may provide you with access to ALK's proprietary websites including without limitation at www.alk.com (the "Website") and products and services accessible thereon, and certain features, functionality, and content accessible on or through PC*MILER may be hosted on the Website (collectively, "Content and Services"). Your access to and use of such Content and Services are governed by this License and the Website's terms of use located at www.alk.com, which are incorporated herein by this reference. Your access to and use of such Content and Services may require you to acknowledge your acceptance of such terms of use and/or to register with the Website, and your failure to do so may restrict you from accessing or using certain of PC*MILER's features and functionality. Any violation of such terms of use will also be deemed a violation of this License. **ALK DOES NOT PROVIDE ANY WARRANTY FOR, OR GUARANTEE THE AVAILABILITY OF, PRODUCTS AND SERVICES PURCHASED OR ADVERTISED THROUGH THE APPLICATION.**
24. Technical Support: For one (1) year from date of purchase, ALK will provide you technical support on the PC*MILER product(s) purchased to those that are current on their payment.
25. Disclosure for Optional Content Displayed in PC*MILER for Additional Purchase: Traffic data, including historical traffic data, and any other optional content licensed as a subscription service must be renewed annually for continued use. You agree and acknowledge that ALK is not responsible for the content displayed which belongs to third parties, and advising you for the end of your subscription.
26. Additional Use Terms, Conditions, Restrictions and Obligations: This Agreement and your use of PC*MILER is expressly subject to the ALK Privacy Policy and the HERE and ALK End User License Agreement terms and conditions respectively ("HERE EULA") and ("ALK EULA") set forth below. **YOU ACKNOWLEDGE AND AGREE THAT YOU MAY NOT USE PC*MILER IF YOU DO NOT ACCEPT THE TERMS AND CONDITIONS OF BOTH THE HERE AND ALK EULA AND YOU ACKNOWLEDGE THAT YOU HAVE REVIEWED AND ACCEPT THE TERMS AND CONDITIONS OF BOTH THE HERE AND ALK EULA BY INSTALLING OR ACTUALLY USING PC*MILER.**
27. Copyright: United States copyright law and international treaty provisions protect PC*MILER and the data transmitted by PC*MILER. You agree that no title to the intellectual property in PC*MILER or the data is transferred to you. You further acknowledge that title and ownership rights will remain the exclusive property of ALK or its licensors, and you will

not acquire any rights to PC*MILER or the data except as expressly set out in this license. You agree that any copies of PC*MILER will contain the same proprietary notices that appear on and in PC*MILER. The Copyright to PC*MILER is held by ALK Technologies, Inc., 1 Independence Way, Princeton, NJ 08540 USA. Full contact details are available at www.alk.com.

28. **Miscellaneous:** This agreement shall be construed and applied in accordance with the laws of the State of New Jersey. The Courts of the State of New Jersey shall be the exclusive forum for all actions or interpretation pertaining to this agreement. Any amendments or addenda to this agreement shall be in writing executed by all parties hereto. This is the entire agreement between the parties and supersedes any prior or contemporaneous agreements or understandings. Should any provision of this agreement be found to be illegal or unenforceable, then only so much of this agreement as shall be illegal or unenforceable shall be stricken and the balance of this agreement shall remain in full force and effect.
29. **Date:** This EULA was last updated on August 9, 2017. Visit <https://www.pcmiler.com/eula> for regular updates.

General Content Terms and Conditions

The following terms shall apply to the use of map data for the countries specified below to the extent that your product and/or services uses map data for each respective country:

FOR HERE DATA

This end user license agreement applies to HERE data included in your Software ("HERE EULA"), if any, as well as to HERE data you obtain separately that is formatted for use with your Software.

The data ("Data") is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and ALK Technologies Inc. ("ALK") and its licensors (including their licensors and suppliers) on the other hand.

© 2017 HERE. All rights reserved.

Personal Use Only: You agree to use this Data together with PC*MILER for the solely personal, non-commercial purposes for which you were licensed, and not for service bureau, time-sharing or other similar purposes. Accordingly, but subject to the restrictions set forth in the following paragraphs, you may copy this Data only as necessary for your personal use to (i) view it, and (ii) save it, provided that you do not remove any copyright notices that appear and do not modify the Data in any way. You agree not to otherwise reproduce, copy, modify, decompile, disassemble or reverse engineer any portion of this Data, and may not transfer or distribute it in any form, for any purpose, except to the extent permitted by mandatory laws. Multi-disc sets may only be transferred or sold as a complete set as provided by ALK and not as a subset thereof.

Restrictions: Except where you have been specifically licensed to do so by ALK, and without limiting the preceding paragraph, you may not (a) use this Data with any products, systems, or applications installed or otherwise connected to or in communication with vehicles, capable of vehicle navigation, positioning, dispatch, real time route guidance, fleet management or similar applications; or (b) with or in communication with any positioning devices or any mobile or wireless-connected electronic or computer devices, including without limitation cellular phones, palmtop and handheld computers, pagers, and personal digital assistants or PDAs.

Warning: The Data may contain inaccurate or incomplete information due to the passage of time, changing circumstances, sources used and the nature of collecting comprehensive geographic data, any of which may lead to incorrect results.

No Warranty: This Data is provided to you "as is," and you agree to use it at your own risk. ALK and its licensors (and their licensors and suppliers) make no guarantees, representations or warranties of any kind, express or implied, arising by law or otherwise, including but not limited to, content, quality, accuracy, completeness, effectiveness, reliability, fitness for a particular purpose, usefulness, use or results to be obtained from this Data, or that the Data or server will be uninterrupted or error-free.

Disclaimer of Warranty: ALK AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) DISCLAIM ANY WARRANTIES, EXPRESS OR IMPLIED, OF QUALITY, PERFORMANCE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. Some States, Territories and Countries do not allow certain warranty exclusions, so to that extent the above exclusion may not apply to you.

Disclaimer of Liability: ALK AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) SHALL NOT BE LIABLE TO YOU: IN RESPECT OF ANY CLAIM, DEMAND OR ACTION, IRRESPECTIVE OF THE NATURE OF THE CAUSE OF THE CLAIM, DEMAND OR ACTION ALLEGING ANY LOSS, INJURY OR DAMAGES, DIRECT OR INDIRECT, WHICH MAY RESULT FROM THE USE OR POSSESSION OF THE INFORMATION; OR FOR ANY LOSS OF PROFIT, REVENUE, CONTRACTS OR SAVINGS, OR ANY OTHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OF OR INABILITY TO USE THIS INFORMATION, ANY DEFECT IN THE INFORMATION, OR THE BREACH OF THESE TERMS OR CONDITIONS, WHETHER IN AN ACTION IN CONTRACT OR TORT OR BASED ON A WARRANTY, EVEN IF ALK OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some States, Territories and Countries do not allow certain liability exclusions or damages limitations, so to that extent the above may not apply to you.

Export Control: You agree not to export from anywhere any part of the Data provided to you or any direct product thereof except in compliance with, and with all licenses and approvals required under, applicable export laws, rules and regulations.

Entire Agreement: These terms and conditions constitute the entire agreement between ALK (and its licensors, including their licensors and suppliers) and you pertaining to the subject matter hereof, and supersedes in their entirety any and all written or oral agreements previously existing between us with respect to such subject matter.

Governing Law: The above terms and conditions shall be governed by the laws of Illinois, without giving effect to (i) its conflict of laws provisions, or (ii) the United Nations Convention for Contracts for the International Sale of Goods, which is explicitly excluded. You agree to submit to the jurisdiction of the Illinois for any and all disputes, claims and actions arising from or in connection with the Data provided to you hereunder.

Government End Users: If the Data is being acquired by or on behalf of the United States Government or any other entity seeking or applying rights similar to those customarily claimed by the United States government, the Data is a "commercial item" as that term is defined at 48 C.F.R ("FAR") 2.101, is licensed in accordance with End-User Terms and each copy of Data delivered or otherwise furnished shall be marked and embedded as appropriate with the following "Notice of Use" and shall be treated in accordance with such Notice.

Notice of Use

Contractor (Manufacturer/Supplier) Name: HERE

Contractor (Manufacturer/Supplier) Address: 425 W. Randolph Street, Chicago, Illinois 60606

This Data is a commercial item as defined in FAR 2.101 and is subject to these End User Terms under which this Data was provided

© 2017 HERE. All rights reserved

If the Contracting Officer, federal government agency, or any federal official refuses to use the legend provided herein, the Contracting Officer, federal government agency, or any federal official must notify HERE prior to seeking additional or alternative rights in the Data.

FOR ALK DATA

This end user license agreement applies to ALK Data included in PC*MILER if any, as well as to ALK data you obtain separately that is formatted for use with your Software ("ALK EULA").

The data ("Data") is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and ALK Technologies, Inc. ("ALK") and its licensors (including their licensors and suppliers) on the other hand.

© 2017 ALK. All rights reserved.

Personal Use Only: "You" means you as an End-user or as a "Company" on behalf of its End-Users which are subject to either a Non-Disclosure Agreement as employees or a License Agreement that contains the same restrictions as herein as a Value Added

Reseller. Also as used in this EULA "personal use" can also be understood in more general terms as for a Company's use. You agree to use this Data together with PC*MILER for the solely personal, non-commercial purposes for which you were licensed, and not for service bureau, time-sharing or other similar purposes. Accordingly, but subject to the restrictions set forth in the following paragraphs, you may copy this Data only as necessary for your personal use to (i) view it, and (ii) save it, provided that you do not remove any copyright notices that appear and do not modify the Data in any way. You agree not to otherwise reproduce copy, modify, decompile, disassemble or reverse engineer any portion of this Data, and may not transfer or distribute it in any form, for any purpose, except to the extent permitted by mandatory laws.

Restrictions: Except where you have been specifically licensed to do so by ALK in the case of an integrated solution bundled or intended for use with specific smartphones, similar mobile communication device(s) or personal navigation device(s), and without limiting the preceding paragraph, you may not use this Data (a) with any products, systems, or applications installed or otherwise connected to or in communication with vehicles, capable of vehicle navigation, positioning, dispatch, real time route guidance, fleet management or similar applications; or (b) with or in communication with any positioning devices or any mobile or wireless-connected electronic or computer devices, including without limitation cellular phones, smartphones, palmtop and handheld computers, pagers, and personal digital assistants or PDAs.

Warning: The Data may contain inaccurate, untimely or incomplete information due to the passage of time, changing circumstances, sources used and the nature of collecting comprehensive geographic data, any of which may lead to incorrect results. The Data is based on official highway maps, the Code of Federal Regulations, and information provided by state governments and other licensors. It is provided without a warranty of any kind. The user assumes full responsibility for any delay, expense, loss or damage that may occur as a result of use of the Data.

No Warranty: This Data is provided to you "as is," and you agree to use it at your own risk. ALK and its licensors (and their licensors and suppliers) make no guarantees, representations or warranties of any kind, express or implied, arising by law or otherwise, including but not limited to, content, quality, accuracy, completeness, effectiveness, reliability, fitness for a particular purpose, usefulness, use or results to be obtained from this Data, or that the Data or server will be uninterrupted or error-free.

Disclaimer of Warranty: ALK AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) DISCLAIM ANY WARRANTIES, EXPRESS OR IMPLIED, OF QUALITY, PERFORMANCE, MERCHANTABILITY, AND/OR FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. Some States, Territories and Countries do not allow certain warranty exclusions, so to that extent the above exclusion may not apply to you.

Disclaimer of Liability: ALK AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) SHALL NOT BE LIABLE TO YOU: IN RESPECT OF ANY CLAIM, DEMAND OR ACTION, IRRESPECTIVE OF THE NATURE OF THE CAUSE OF THE CLAIM, DEMAND OR ACTION ALLEGING ANY LOSS, INJURY

OR DAMAGES, DIRECT OR INDIRECT, WHICH MAY RESULT FROM THE USE OR POSSESSION OF THE INFORMATION; OR FOR ANY LOSS OF PROFIT, REVENUE, CONTRACTS OR SAVINGS, OR ANY OTHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OF OR INABILITY TO USE THIS INFORMATION, ANY DEFECT IN THE INFORMATION, OR THE BREACH OF THESE TERMS OR CONDITIONS, WHETHER IN AN ACTION IN CONTRACT OR TORT OR BASED ON A WARRANTY, EVEN IF ALK OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some States, Territories and Countries do not allow certain liability exclusions or damages limitations, so to that extent the above may not apply to you.

Export Control: You agree not to export from anywhere any part of the Data provided to you or any direct product thereof except in compliance with and with all licenses and approvals required under, applicable export laws, rules and regulations.

Entire Agreement: These terms and conditions constitute the entire agreement between ALK (and its licensors, including their licensors and suppliers) and you pertaining to the subject matter hereof, and supersedes in their entirety any and all written or oral agreements previously existing between us with respect to such subject matter.

Governing Law: The above terms and conditions shall be governed by the laws of the State of New Jersey. The courts of the State of New Jersey shall have exclusive jurisdiction to settle any and all disputes, claims and actions arising from or in connection with the Data provided to you hereunder. You agree to submit to such jurisdiction.

FOR CANADA TERRITORY DATA

The following provisions apply to data for Canada provided by Canada Post Corporation as the owner of the copyright, and Statistics Canada as the owner of all intellectual property rights, in the same data (collectively "Canada Post Data").

Neither Canada Post Data or Statistics Canada, shall be liable: (i) in respect of any claim, demand or action, irrespective of the nature or causes of the claim whatsoever, alleging any loss, injury or damages, direct or indirect, which may result from End User's use or possession of Canada Post Data; or (ii) in any way for loss of revenues or contracts, or any other consequential loss of any kind resulting from any defect in such Canada Post Data.

End User agrees to indemnify and save harmless Canada Post and Statistics Canada and its officers, employees, agents from all claims alleging loss, costs, expenses, damages or injuries (including injuries resulting in death) arising out of End User's possession or use of Canada Data.

PC*MILER|Spreadsheets is a high performance engine for generating point-to-point distances and drive times which can be easily integrated with Microsoft® Excel®. It allows spreadsheet users to easily access PC*MILER® distance information from within their spreadsheet program.

With PC*MILER|Spreadsheets you can:

- Benefit from the flexibility of the application. This powerful product gives you the ability to customize PC*MILER for your own needs.
- Build a database and let spreadsheet functions summarize and analyze your data, including price quotes, cost analysis, driver pay, operations analysis, lane analysis, and bill auditing.
- Create new spreadsheet applications.
- Calculate distances instantly within your spreadsheet (no need to copy and paste).
- Optimize lane analyses and perform modal comparisons.

1.1 Requirements

PC*MILER|Spreadsheets requires a base installation of PC*MILER. For a complete list of PC*MILER platforms and requirements, refer to the PC*MILER *User's Guide* (see section 1.5, *Accessing PC*MILER Product User's Guides*).

Additionally, the Spreadsheets application requires:

- 3 MB extra free space on your hard disk
- Microsoft Excel 97 or higher already installed and working

Optional:

- PC*MILER|Streets for street-level detail in North America
- PC*MILER|Hazmat for hazardous material detail in the U.S. and Canada
- PC*MILER|Tolls for toll cost calculations in the U.S. and Canada
- PC*MILER|Worldwide for routing in regions outside of North America (Africa, Asia, Europe, Middle East, Oceania, and South America)
- Canadian Postal Codes for access to related data
- Standard Point Location Codes (SPLC) for access to related data

1.2 Installation

PC*MILER|Spreadsheets is a PC*MILER add-on product that can be installed when you install PC*MILER or at a later time. To install Spreadsheets along with PC*MILER, simply make sure that “PC*MILER|Spreadsheets” is on the list of PC*MILER components when you are prompted during the installation process.

If you are adding Spreadsheets at a later time, refer to the PC*MILER *User’s Guide* that was included with the PC*MILER installation (see section 1.5, *Accessing PC*MILER Product User’s Guides*).

1.3 The DEMO.xlsx Sample Workbooks

The PC*MILER|Spreadsheets installation contains sample workbooks of all PC*MILER|Spreadsheets functions. They are a useful reference when you are learning how to use the application. These files are located in the Excel folder in the PCMILER31 folder of your PC*MILER installation. Use these workbooks as a starting point, and then further customize each workbook for your own needs.

Sample workbooks are available in the ...\\ALK Technologies\\PCMILER31\\EXCEL ... folder:

- DEMO_NA.xlsx – includes functions specific to general PC*MILER use
- DEMO_NA_Tolls.xlsx – includes functions specific to PC*MILER|Tolls (*PC*MILER|Tolls must be installed*)
- DEMO_WW.xlsx – includes functions specific to PC*MILER|Worldwide (*PC*MILER|Worldwide must be installed*)

When you open one of these files, the first thing you’ll see is an introduction to PC*MILER|Spreadsheets with instructions for setup and using the demo file. To go to the sample function applications, click on any other tab in the workbook. Function-specific instructions are under the spreadsheet in each tab. Any cell that displays “#NAME?” can be activated to reveal the formula in the cell, just double-click it and press <Enter>.

IMPORTANT: Make a backup copy of each sample workbook before making any changes to preserve the file’s original contents, layout and formatting.

1.4 Technical Support

If you have unresolved questions or problems with the software, you can visit us at www.pcmiler.com/support for online support, product training resources, and much more. You can also contact us in the ways listed below.

Please have your Product Key Code, version number, Windows version number, and hardware configuration information (manufacturer, speed, and monitor type) available before you call, or include this information in your email.

Phone: 1.800.377.6453, ext. 2 or 609.683.0220, ext. 2. When calling, ask for “PC*MILER Technical Support”.

Fax: 609.252.8108

Email: pcmsupport@alk.com. Attachments of supporting documentation can be up to 10 MB.

Web Site: www.pcmiler.com

Hours: 8:00am – 5:00pm EST, Mon-Fri

1.5 Accessing User Guides for PC*MILER Products

NOTE: You must have Adobe Acrobat Reader on your computer to properly view a PC*MILER product’s user guide. If you do not have this program installed already, a free copy can be downloaded from www.adobe.com.

To make Adobe Reader your default reader, from within the Adobe Reader application select the Edit menu > Preferences > General and click **Select Default PDF Handler**. Select Adobe Reader from the drop-down, and click **Apply** then **OK** to close the Preferences dialog.

To view or print the user guide for any PC*MILER product without first opening an application, click the Windows **Start** button > **All Apps** (or the equivalent on your system) > **PCMILER 31** > and select one of the user guide files.

To search for a keyword or phrase in a user guide, use Adobe Reader’s **Find** option in the Edit menu or on the tool bar.

All user guides can also be accessed at www.pcmiler.com/support.

1.6 Redistribution of PC*MILER|Spreadsheets

Purchasing PC*MILER|Spreadsheets does not entitle you to redistribute any portions of this product. You may NOT redistribute ALK's highway database, source code, interface definitions, or the PC*MILER|Spreadsheets Add-In or DLL.

Your clients must purchase additional versions of the PC*MILER engine and database directly from ALK. ALK Technologies' sales representatives can be reached at **1-800-377-MILE**.

1.7 Licensing

Unless you buy additional licenses, only one copy of Excel at a time can attach to the highway database. You can connect more client applications by purchasing additional database licenses from ALK (multi-user licenses). If you plan to connect many users to a network version of the PC*MILER database, ALK has attractive pricing for LAN versions.

PC*MILER|Spreadsheets is an Add-In for Excel Version 5.0 or greater. To complete the installation you must enable the Add-In manually from within Excel, or configure Excel to automatically load the Add-In each time you open the program.


2.1 To Enable the Add-In Manually

For Microsoft Office 2003 (or older):

1. Open Excel.
2. In the top tool bar menu, select **Tools > Add-Ins... > Browse**.
3. Navigate to the folder where PC*MILER is installed and go to the **Excel folder**. The default location of the Excel folder is ...\\ALK Technologies\\PCMILER31\\Excel.
4. In the ...\\Excel folder, click on the **Pcmsrv32.xla** file then click **OK**.
5. In the Add-Ins dialog box, "PC*MILER|Spreadsheets" will appear in the list of products with a check next to it. This confirms that the Add-In is activated.
6. Click **OK** to continue. The setup is now complete.


The PC*MILER|Spreadsheets functions are now ready to be used and will be available every time you start Excel.

For Microsoft Office 2007 and 2010:

1. Open Excel.
2. Click on the **Microsoft symbol**  in the upper left-hand corner of the screen (Excel 2007), or click on the **File** menu (Excel 2010).
3. In the list that opens, click on the **Excel Options** button at the bottom (Excel 2007) or the **Options** menu option (Excel 2010).
4. In the dialog box that opens, in the left-hand column menu click on **Add-Ins**.
5. In the right-hand side of the dialog box, there's a drop down menu next to **Manage**. Select **Excel Add-Ins** if it is not already selected, then click the **Go** button to continue.

-
6. In the Add-Ins dialog box that opens, click **Browse** and navigate to the folder where PC*MILER is installed and go to the **Excel folder** (the default location is C:\ALK Technologies\PCMILER31\Excel).
 7. In the ... \Excel folder, click on the **Pcmsrv32.xla** file, then click **OK**.
 8. In the Add-Ins dialog box, "PC*MILER|Spreadsheets" will appear in the list of products with a check next to it. This confirms that the Add-In is activated.
 9. Click **OK** to continue.

The remaining steps below are necessary only if you wish to turn off security warning messages for this spreadsheet.

10. Click on the **Microsoft symbol**  in the upper left-hand corner of the screen.
11. In the list that opens, at the bottom click on the **Excel Options** button.
12. In the dialog box that opens, in the left-hand column menu listing click on **Trust Center**. Then click on the **Trust Center Settings** button on the right.
13. Click on **Trusted Locations** in the left-hand column menu.
14. Check if the location of the Excel folder from Step 6 is in the list of trusted locations; if not, click **Add New Location...**
15. Click **Browse...** and navigate to the location of the Excel folder.
16. Select "**Subfolders of this location are also trusted**", then click **OK**.
17. In the Trust Center, check "**Allow Trusted Locations on my network**", then click **OK**. The setup is now complete.

The PC*MILER|Spreadsheets functions are now ready to be used and will be available every time you start Excel.

2.2 To Enable Autoloading of PC*MILER|Spreadsheets

To have PC*MILER|Spreadsheets functions available without the manual Add-In process, copy the file **pcmsrv32.xla** from the Excel folder in your PC*MILER installation to the Excel startup folder on your computer. The startup folder is called **XLSTART** and is located in the folder where Microsoft® Excel is installed.

For more information, see Excel Help under the search item "Startup folder".


2.3 To Disable the Add-In Manually

1. Start Excel.

2. **For Microsoft Office 2003:**

Under the **Tools** menu, choose **Add-Ins**, then remove the check next to “**PC*MILER|Spreadsheets**” and click **OK**.

For Microsoft Office 2007:

Click the Microsoft Office button  , click **Excel Options**, and then click **Add-Ins**. In the **Manage** pick list at the bottom of the window that opens, select **Excel Add-Ins** if it is not already selected. Then click “**Go...**” and remove the check next to “**PC*MILER| Spreadsheets**”, and click **OK**.

For Microsoft Office 2010:

Click **File** then **Options** to open the Excel Options dialog. On the left, click **Add-Ins**. In the **Manage** pick list at the bottom of the window that opens, select **Excel Add-Ins** if it is not already selected. Then click “**Go...**” and remove the check next to “**PC*MILER| Spreadsheets**”, and click **OK**.

The PC*MILER|Spreadsheets functions are now removed. They will not be available the next time you start Excel.

2.4 To Disable Autoloading of PC*MILER|Spreadsheets

Remove the file **pcmsrv32.xla** from the Excel **XLSTART** folder.

2.5 Note on the PC*MILER|Mapping Excel Add-In

If PC*MILER|Mapping was purchased, the add-in **Pcmgmp32.xla** will be available in the same folder as **Pcmsrv32.xla** and is enabled/disabled the same way, as described above. See the PC*MILER|Mapping *User's Guide* and MAPFNS.xlsx demo file that were installed with PC*MILER|Mapping for instructions on using the add-in.

To access the PC*MILER|Mapping *User's Guide*, click the Windows Start menu > All Programs (or equivalent for your operating system) > PCMILER 31 > *Mapping User's Guide*.

The MAPFNS.xlsx demo file can be found in your PC*MILER installation folder, usually C:\ALK Technologies\PCMILER31\EXCEL.

There are two ways to use PC*MILER|Spreadsheets formulas in Excel: either type them directly into a cell or use the Insert Function option. All formulas will accept strings for city name, and either strings or integers for ZIP codes.

IMPORTANT NOTE: Leading zeros are significant in numeric postal codes in many countries, for example in the USA, "504" is a 3-digit ZIP code centroid in central Wisconsin, whereas "00504" is a 5-digit ZIP code in Holtsville, New York. For that reason, **we recommend that you always enter or import numeric postal codes as text strings** (format cells as “Text” – see section 3.1 below). If you do enter or import a postal code as an integer, be aware that Microsoft Excel will strip off leading zeros before that number gets to PC*MILER, for example if you enter the formula =miles(00504,504), PC*MILER will see that as =miles(504,504). In contrast, =miles("00504",504) will return the distance from the 5-digit ZIP code "00504" in Holtsville, New York to the 3-digit ZIP code area "504" in southeast Wisconsin.

3.1 How to Format Cells and Enter a Formula

- All city/state entries in Excel **MUST** contain a comma between the city name and state/country abbreviation, and – if you are using PC*MILER|Streets – all street addresses **MUST** be separated from the preceding place name by a semicolon. Example: **new york, ny;118 broadway**.

NOTE: For help with formatting street-level addresses in Spreadsheets, we provide a workbook with examples in the Excel folder of your PC*MILER installation folder (usually C:\ALK Technologies\PCMILER31\EXCEL). Look in the “Other Formulas” tab of the DEMO_NA.xlsx file.

- **Columns must be formatted correctly** so they can be read. This is especially important when importing postal codes – if your columns are not properly formatted, the default spreadsheet format (“General”) will cause the first zero to be dropped from postal codes that begin with zero. Also, columns containing calculated distances should be formatted so the desired number of decimal places appears. To format columns:
 1. Highlight a column you wish to format.
 2. Right-click the column and select “**Format Cells...**”.
 3. In the **Number** tab under **Category**, highlight “**Number**”, “**Text**”, “**Currency**”, or “**Special > Zip Code**”, depending on the type of data

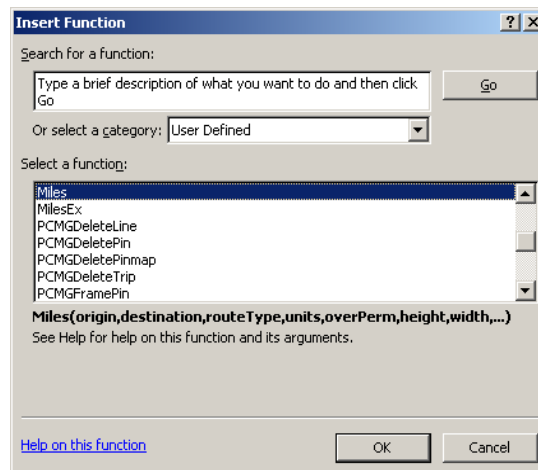
the cells will contain. **NOTE:** All Number and Zip Code formatting accepts text too.

4. Set the options you want for each category; for example, the number of decimal places in the Number format. Click **OK** when done.
 5. Repeat for all columns that you will be using.
- To add a formula to a cell using the Excel **Insert Function** option (note that functions can also be entered manually in the formula bar):

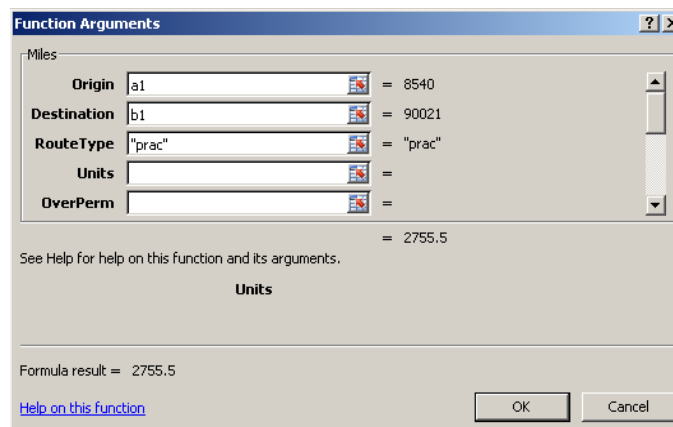
1. Select a cell, then select the **Insert > Function** menu command (for Microsoft Office 2007, **Formulas** tab > **Insert Function**) or click the **fx** speed button above the column headers.



IMPORTANT: Select a formula from the **User Defined** function category. All PC*MILER|Spreadsheets functions available through the Add-In are listed in this category.



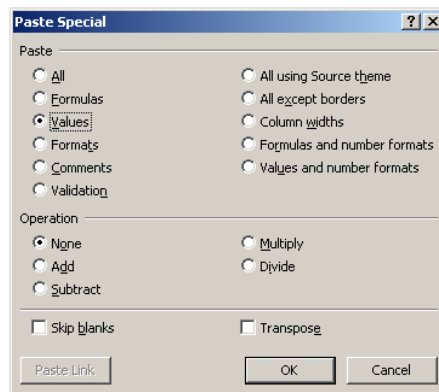
2. Enter cell references or other data in the Function Arguments window, click **OK** when done. **IMPORTANT:** Options need quotes – for example, **“prac”** as in the screenshot below.



3.2 Time-Saving Tips

If you need to copy and paste columns with a large number of calculated values into another worksheet or Excel file, use the Paste Special functionality to avoid waiting for values to recalculate:

1. Select the columns you want to copy.
2. Right click on the selection and choose “Copy”.
3. Right click again and choose “Paste Special”.
4. In the Paste Special dialog, select **Values** and click **OK**.



5. Paste the selection into another worksheet or Excel file. The calculated values will be pasted without the underlying formulas.

DID YOU KNOW? If you are new to Excel, you may not know that the contents of one or more cells can be copied into multiple cells with one click of the mouse.



Formulas or values can be copied by selecting a cell or group of cells, then clicking on the square in the bottom right corner of your selection and dragging down or across the target column(s) or row(s).

3.3 Getting the Miles Between Two Points

The prototype for the =Miles function is:

```
=Miles (origin, destination [, routing type])
```

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

Miles returns the driving distance from the origin to the destination. The origin and destination may be designated as a city with a state abbreviation (e.g. Paris, TX), a postal code, SPLC, latitude/longitude point, or a custom place created in PC*MILER. Any place name or postal code in the PC*MILER database may be used. Three-digit U.S. ZIP codes representing centralized areas are acceptable only with a state abbreviation, e.g. “123, NY”. Canadian Postal Code and SPLC may be entered if the available add-on modules are installed – see section 3.7 on entering SPLC.

Latitude/longitude points may be combined with street addresses – see section 3.8.

If you are using PC*MILER|Streets, a street address may be added, separated from the place name by a semicolon (e.g. “**kingston, nj; 16 laurel avenue**”) – see NOTES below for PC*MILER|Streets users.

Miles returns **-1** if the origin, destination, or routing type is not valid.

Setting a route type is optional. (To set a default route type, see NOTE below.) Available route types correspond to those in the PC*MILER user interface (see the PC*MILER *User’s Guide* or Help for descriptions). The default value is Practical. Options are: **Prac** (Practical), **Short** (Shortest), **Natl** (State + National Network), **Toll** (Toll Discouraged), and **Air** (Air Distance – this route type is not available in the PC*MILER user interface). Route type entry is not case sensitive (e.g. “TOLL” or “Toll” is valid).

REMEMBER: 1) Each route option needs quotes around it – see how the functions look in the examples at the end of this section. 2) Cells with functions should have the Number format, decimal places can be edited.

NOTE: The **default routing type** is determined by the default route profile setting in the PC*MILER user interface or settings in the PCMSERVE.INI file. **Combination route types** (for example, Shortest and State + National Network, or shortest and Toll Discouraged) can be accessed in Spreadsheets by 1) using “Ex” functions – see section 3.19, or 2) changing the default routing type in PC*MILER or in the PCMSERVE.INI. See section 3.14, *Default Option Settings*, for more on setting default values.

Custom vehicle dimensions can also be set – see section 3.13, *Vehicle Dimension Options*.

The PC*MILER database contains several thousand cities and towns that share the same name. For instance, in Pennsylvania there are two towns named “Hamlin”. If there are multiple instances of the city name you enter, the **Miles** function will match to the first instance of the city name it finds as it searches the database. For this reason, you may want to enter postal codes for the origin and destination rather than city names whenever possible.

To see the full PC*MILER spelling and the postal code for a place name, you can use the **CityName** or **FullName** function described in this manual.

Duplicate cities or towns that do not have a postal code assigned by the Postal Service are differentiated by the names of the counties in which they are located. The county name appears as part of the city name (e.g. Fairview, PA, Jefferson). For more information about how PC*MILER handles duplicate or multiple city names, see the *Duplicate City Names* section in your *PC*MILER User’s Guide*.

NOTE: PC*MILER does NOT offer state centroid distances, you cannot get the distance from a central point in one state to a central point in another state. If states are referenced for the origin and destination in the Miles function and mileage is returned, it means that PC*MILER found locations in the database that had state names; for example, “Michigan, ND”. In general it is recommended to use the **=CityName** function if stop validation is needed.

NOTES for PC*MILER|Streets Users: When stops are city names or postal codes, by default “Highway Only” routing is used. This routing uses an air distance from the midpoint of the highway segment that is nearest to the destination postal code or city/state. Routes to stops that include a street-level address are calculated to the highway-level road that is closest to the address.

If “-1” is returned, or the miles that are returned do not match those generated in PC*MILER, try changing this option so that your route stays on local roads for as long as possible as it approaches a destination (PC*MILER will use local streets between the nearest highway segment and the stop).

To change the default for this option, in the PCMSERVE.INI file (see *Appendix B*) set [Options] UseStreets=TRUE. Also see section 3.14 for more about defaults, including order of precedence.

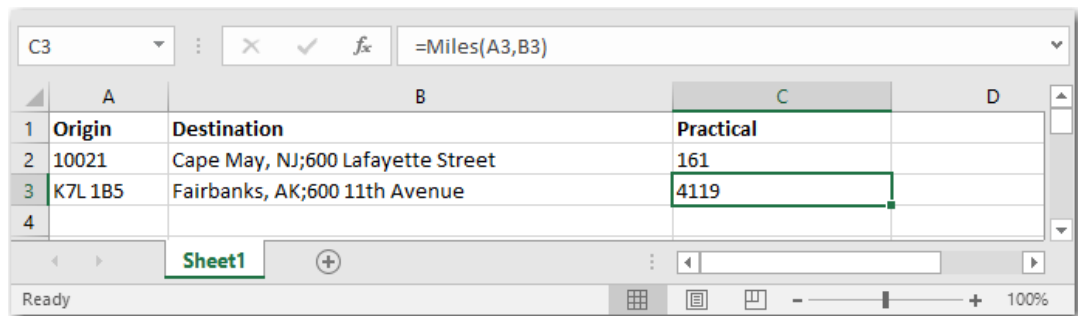
To see an example of acceptable formatting for street-level addresses, see the **Other Formulas** tab of the DEMO_NA.xlsx workbook.

MILES Function Examples:

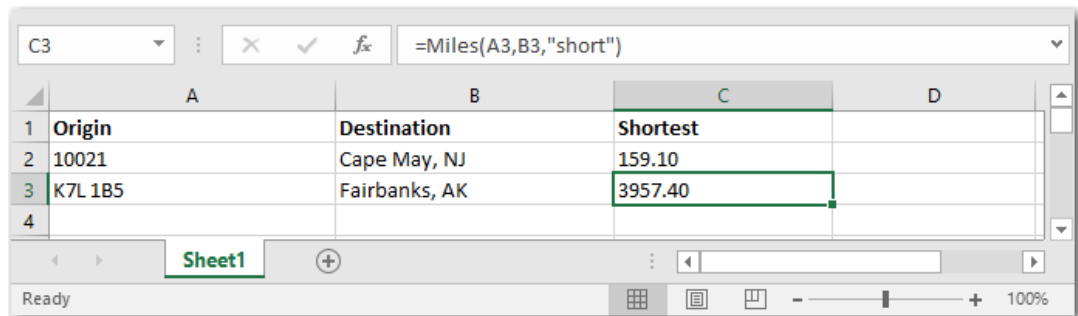
Origin	Destination	Formula
08540	12345	=miles(A2,B2, “prac”)

123, NY	234, VA	=miles(A3,B3, "prac")
H3B 1A2	Toronto, ON;797 Yonge St.	=miles(A4,B4, "short")
Ankeny, IA;200 East 1 st St.	Omaha, NE;1600 Douglas St.	=miles(A5,B5, "short")
SPLC401167000	SPLC600143000	=miles(A6,B6, "short")
Savannah, GA;25 Johnson Ct.	08528	=miles(A7,B7, "natl")
38.962955N,79.058204W,WV	39.618763N,98.094130W,KS	=miles(A8,B8, "natl")
El Paso, TX	Cancun, QR	=miles(A9,B9, "toll")
H3B 1A2	Moncton, NB	=miles(A10,B10"air")

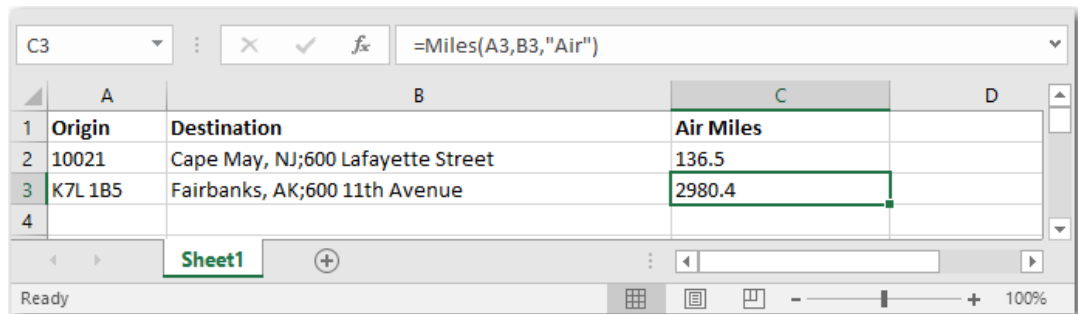
Example of Practical miles using cell references:



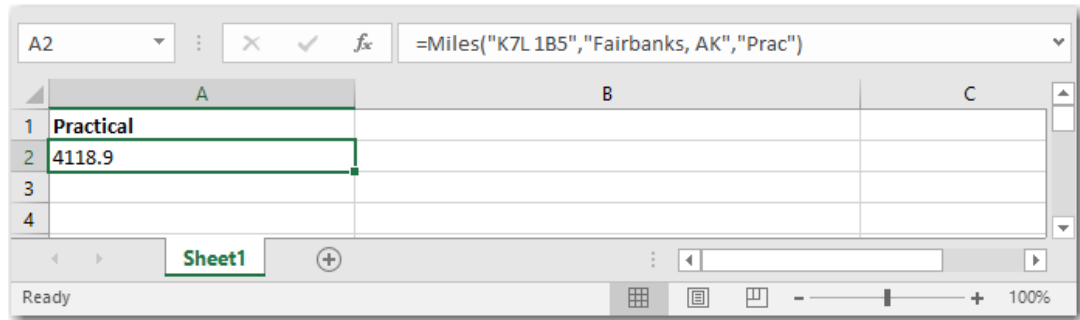
Example of Shortest miles using cell references:



Example of Air miles using cell references and street addresses:



Example of Practical miles with place names entered directly into the formula:



NOTE: Notice in the above example that quotes are needed around the Canadian postal code “K7L 1B5” due to the space after “L”. Spaces must be entered where they exist in postal codes and quotes must be used when entering a formula manually.

3.4 Using Mexican Postal Codes

NOTE: See section 3.14 on the order of precedence between settings in PC*MILER, the PCMSERVE.INI file and options set directly in Spreadsheets.

Mexican Postal Codes are now accessible in the database. Since U.S. ZIP Codes and Mexican Postal Codes share a similar naming convention, to ensure that the entered ZIP/Postal Code matches the desired location, there are settings available for the PCMSERVE.INI (see *Appendix B*), and function prototypes in PC*MILER|Connect. The PCMSERVE.INI settings are:

```
UseUSPostCodes=True/False  
UseMexPostCodes=True/False
```

To add these setting options, do the following:

1. Open PCMSERVE.INI (this file can be found in your Windows or WINNT folder) using Notepad, Wordpad, or another text editor.
2. Find the [OPTIONS] section.
3. Under [OPTIONS] add the above lines (see below for valid combinations).
4. Save and exit PCMSERVE.INI.

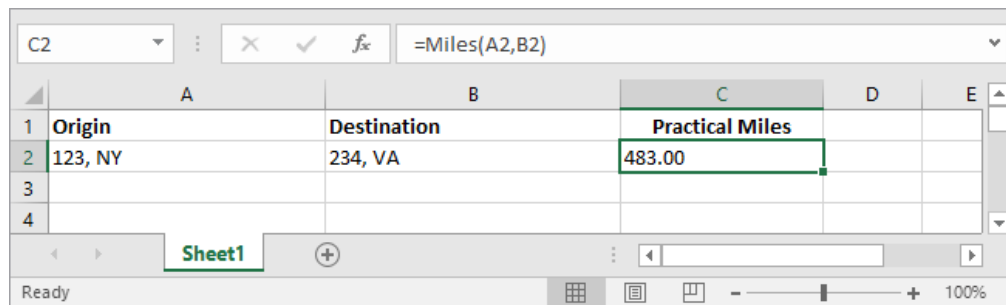
The possible setting combinations are:

- UseUSPostCodes=False and UseMexPostCodes=False – Defaults to the U.S. ZIP with no routing to Mexican postal codes
- UseUSPostCodes=True and UseMexPostCodes=False – Same as above

- UseUSPostCodes=True and UseMexPostCodes=True – Defaults to the U.S. ZIP, must pass an Estados code to get Mexican location (e.g. “50510,EM”)
- UseUSPostCodes=False and UseMexPostCodes=True – Only Mexican postal codes are available, in the U.S. only city-state pairs will get U.S. location (e.g. “Chico, CA”)

3.5 Using 3-Digit ZIP Codes

When using 3-digit ZIP codes, a state abbreviation must be included, e.g. **123, NY**. If the state is not included, an error message will be returned. Depending on how the cell is formatted, Excel may add zeroes at the beginning of the ZIP code; but an error message will be generated whether or not this occurs.



3.6 Changing the “NL” Setting

To accommodate the use of the “NL” abbreviation to conform to ISO 2-Character abbreviation standards, PC*MILER|Spreadsheets users can now choose whether to set NL to geocode to Newfoundland and Labrador locations in Canada or to Nuevo Leon locations in Mexico. In PC*MILER, this setting is defaulted to *Use NL for Newfoundland and Labrador*. If *NL for Newfoundland and Labrador* is the active option and you try to enter a Nuevo Leon location as an origin or destination, you will receive a -1 error message as the formula result.

For Spreadsheets, this setting can be adjusted in the PCMSERVE.INI file as follows (this adjustment takes precedence over settings in PC*MILER, see section 3.14 on order of precedence):

1. Open PCMSERVE.INI (this file can be found in your Windows or WINNT folder) using Notepad, Wordpad, or another text editor.
2. Find the [OPTIONS] section.
3. Under [OPTIONS] add this line: UseNLAbbrevInMX=True
4. Save and exit PCMSERVE.INI.

To reset back to the default choice, change =True to =False or delete the whole line and save your changes.

NOTE: If you are using PC*MILER|Connect, an API is available to make this setting change. The API takes precedence over the setting in the INI file, which takes precedence over the PC*MILER user interface.

3.7 Entering SPLC as Stops

(North America only – SPLC data must be installed) To use SPLC when entering origins/destinations, each number needs to be preceded by “SPLC”, e.g. “SPLC191690000”. To add this text to a list of SPLC in Microsoft® Excel, use the CONCATENATE formula as described in the steps below:

1. To begin, all origin SPLC numbers should be listed in one column (column A in this example). There should be at least one blank column to the right of the origins column.

	A	B	C	D	E	F
1	Origin		Destination			
2	142000204		178300227			
3	178300227		499600000			
4	499600000		250663250			
5	194575290		207950000			
6						

2. Insert a new column to the left of column A (right click column > *Insert*).
3. In the new column, add “SPLC” to each row that has a SPLC in it. To do this quickly, type “SPLC” in cell A1, then click and drag the bottom right corner of the cell down the column (the cursor will become a plus sign). Let go when all target cells are populated with “SPLC”.

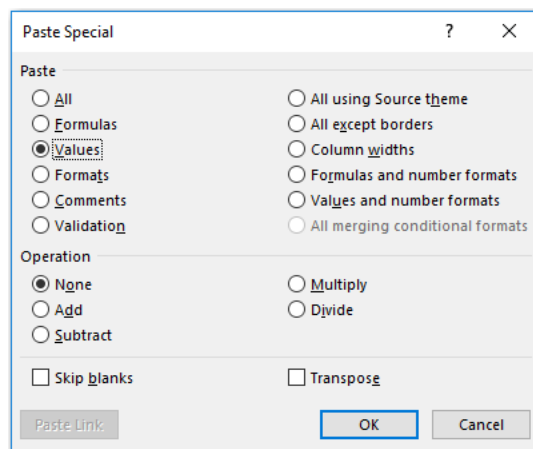
	A	B	C	D	E	F
1	SPLC	142000204		178300227		
2	SPLC	178300227		499600000		
3	SPLC	499600000		250663250		
4	SPLC	194575290		207950000		
5						

4. Select a third column to the right (column C in this example) and make sure the cells are formatted as “General” or “Number” (right click the column and choose *Format Cells...*).

- In cell C1 (or C2 if there is a header row), manually enter the following formula: **=CONCATENATE(A1,B1)**
- Copy the formula down the remainder of the column as in Step 3.

	A	B	C	D	E	F
1	SPLC	142000204	SPLC142000204	178300227		
2	SPLC	178300227	SPLC178300227	499600000		
3	SPLC	499600000	SPLC499600000	250663250		
4	SPLC	194575290	SPLC194575290	207950000		
5						

- With the third column selected, right click and select **“Copy”**.
- With the column still highlighted, right click and select **“Paste Special”**.
- In the dialog that opens, select **Values** and hit **OK**.

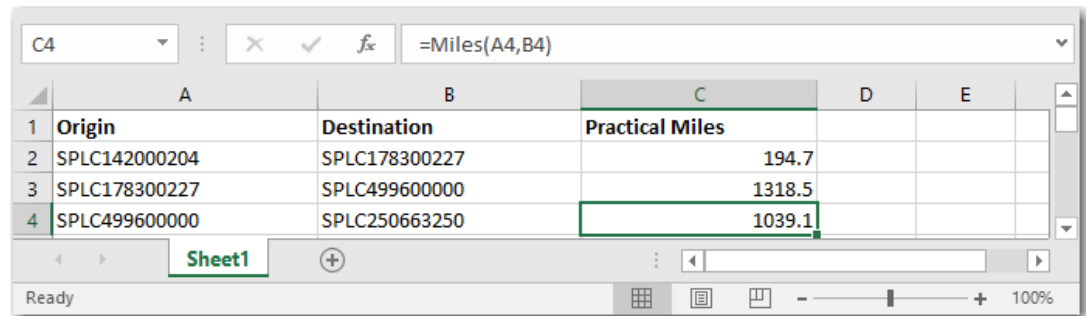


- Delete the first two columns. Your origin SPLCs are now correctly formatted.

	A	B	C	D	E	F
1	SPLC142000204	178300227				
2	SPLC178300227	499600000				
3	SPLC499600000	250663250				
4	SPLC194575290	207950000				
5						

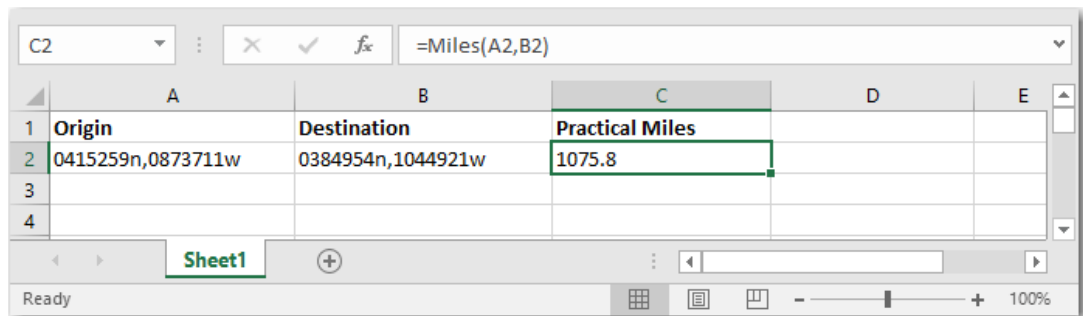
- For the destination SPLC, follow steps 1-10 starting with the column that contain the destinations.

12. When you have origin and destination columns set up, you can enter a PC*MILER calculation function in the third column. Adjust the cell alignment and insert a header row if desired.



3.8 Entering Latitude/Longitude Points as Stops

PC*MILER|Spreadsheets enables you to enter latitude/longitude points as stops on a route. These points can be entered in *degrees minutes seconds* format or *decimal degrees* (e.g. **0401750N,0742131W** or **40.123N,100.333W**).



Degrees-minutes-seconds format:

In degrees-minutes-seconds format the latitude and longitude are each 8 character strings in the following format:

- Characters **1-3** specify the degrees (be sure to include leading zero if required)
- Characters **4-5** specify the minutes
- Characters **6-7** specify the seconds
- Character **8** is either 'N', 'n', 'W', or 'w' with N's for latitude and W's for longitude

Latitude and longitude must be separated by a comma WITHOUT A SPACE. In general the format for a point is: **dddmmssN,dddmmssW**.

Decimal degrees format:

In decimal degrees format, latitude and longitude are strings of up to 8 characters representing a decimal number with up to 3 decimal places. No leading zeros are required. The decimal point counts as one of the characters. Latitude and longitude must be separated by a comma WITHOUT A SPACE. In general the format for a point is: **dddd.dddN,dddd.dddW**.

Converting between formats:

To convert from degrees-minutes-seconds to decimal degrees use the following formula: **ddmmssN** → **ddd + mm/60 + ss/3600** .

Examples:

Here is an example of an actual lat/long near Kendall Park, NJ in both formats:

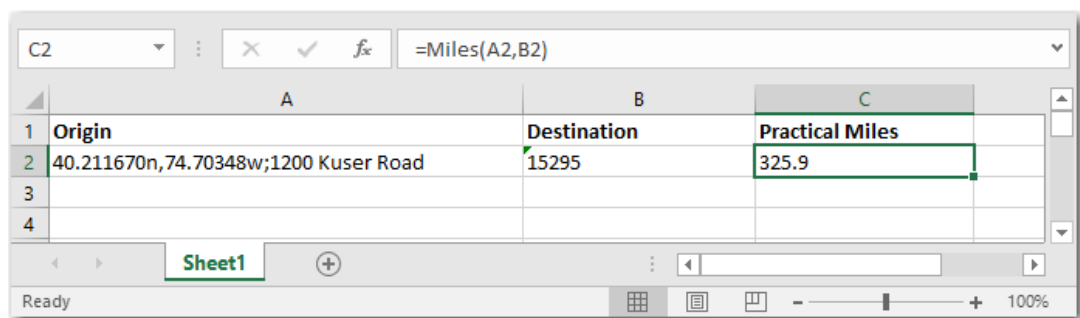
0402515N,0743340W or **40.421N,74.561W**

NOTE: To see an example of converting latitude/longitude coordinates from degrees minutes seconds to decimal degrees, please see the **Other Formulas** tab of the DEMO_NA.xlsx workbook.

Latitude/longitude points can also be combined with street addresses for more kprecise geocoding and directions. The lat/long is added before the address, followed by a semicolon. An example is:

40.211670N,74.703480W;1200 Kuser Road

This functionality will geocode the lat/long to the nearest point on the particular street in the address, rather than to the nearest street in the direction of travel, as would be the case for a lat/long by itself. If the lat/long is more than .5 miles from the street in the address, an error message will be returned.



3.9 Worldwide Countries and European Postal Codes

(For PC*MILER/Worldwide users) With PC*MILER|Worldwide data installed and the correct region specified (see section 3.10), you may specify a country outside North America using its FIPS two-letter abbreviation (for example, ‘Paris, FR’) or a postal code (for example, ‘46001 sp’). For a list of state and country abbreviations by region, please see *Appendix A*.

To use another format for the country abbreviation (ISO2, ISO3, GENC2, or GENC3) you will need to either change the format in PC*MILER or add a line to the PCMSERVE.INI file in the OPTIONS section (see *Appendix B*) as in the example below. An INI setting takes precedence over a setting in PC*MILER.

```
[OPTIONS]  
CountryAbbrevType=ISO2
```

When you are using European postal codes as stops, you need to enter a country abbreviation to avoid being routed to the wrong country in cases where the same postal code exists in more than one country. Enter the postal code, a comma or space, and the correct two-letter country abbreviation; e.g. “46001 sp” or “46001,sp” for Valencia, Spain.

Canadian and Mexican locations are specified using a province or estado abbreviation after the city name. Canadian postal codes are available as an add-on.

NOTE: Postal codes are accessible in other regions, though not all states/countries within that region have data available in PC*MILER.

3.10 Changing the Region

(PC*MILER/Worldwide only) To enter location data for regions outside North America, you can change the region using the =SetDefaultRegion function. The prototype for this function is:

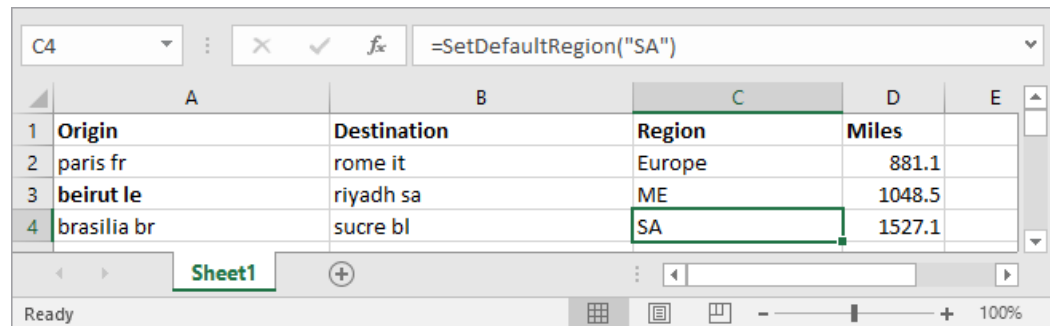
```
=SetDefaultRegion(regionName)
```

NOTE: Sample workbooks that include this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\ EXCEL. See section 1.3 for a description of the provided workbooks.

regionName is a string and valid values are as follows: **NA** (North America – this is the default), **SA** (South America), **Europe** or **EU**, **Africa** or **AF**, **Asia** or **AS**, **ME** (Middle East), **Oceania** or **OC**.

After a region is set using this function, all cells in the worksheet except those that already contain calculations will be affected. In other words, all cells that don’t

contain PC*MILER function calculations already will process locations using the new world region. Previous calculations within the spreadsheet will remain the same.



	A	B	C	D	E
1	Origin	Destination	Region	Miles	
2	paris fr	rome it	Europe	881.1	
3	beirut le	riyadh sa	ME	1048.5	
4	brasilia br	sucre bl	SA	1527.1	

Alternatively, you can edit the “Region” setting in the PCMSERVE.INI file to change the default region. Note that the =SetDefaultRegion function setting takes precedence over the setting in the .INI file. To edit PCMSERVE.INI:

1. Find the PCMSERVE.INI file in your Windows folder, and open it using Notepad or another text editor.
2. Find this line:
[Default]
Region=NA
(If it is only “Region=” with no value, the default value “NA” is active.)
3. Type another region after “=”. See choices for `regionName` above.
4. Save and close the file.
5. You must **close and reopen Excel** for the region change to take effect.

3.11 Switching the Data Set

The data set that PC*MILER|Spreadsheets uses to calculate routes can be changed using the PC*MILER user interface. To do this, open PC*MILER then select the Map tab > *Change Data Set* > and choose a map data version from the menu.

PC*MILER|Spreadsheets must be restarted to activate the new data set. The correct data set must be activated before you enter an address. Remember that the correct region must also be selected (see section 3.10 above).

For PC*MILER (North America only), possible data set options include the base version data set as well as any mid-year versions* that have been released since the base version, including PC*MILER|Streets U.S. and Canadian street-level data if

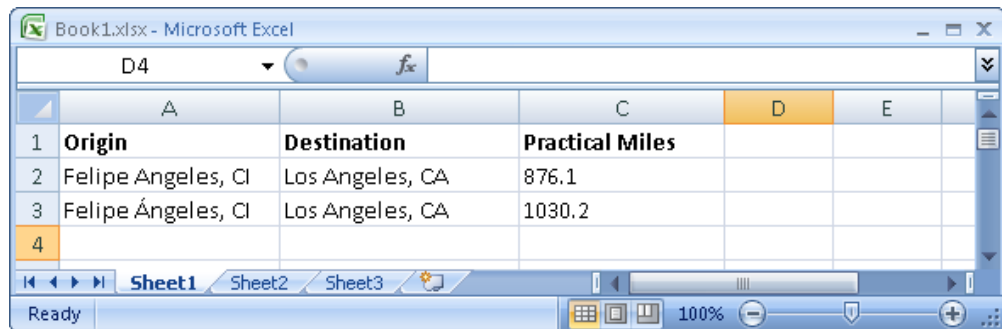
installed. If PC*MILER|Energy has been purchased and installed, that data set will also appear in the menu.

* *Only Annual Update Program (AUP) customers receive mid-year data releases.*

For PC*MILER|Worldwide users, local street address data is available in the U.S. and Canada, and in many countries in worldwide regions outside North America. Each module may be purchased separately or in combination with other data sets.

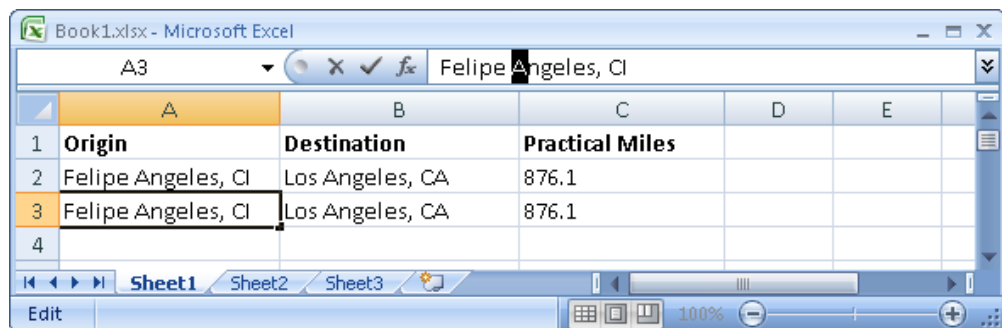
3.12 Entering Location Names Containing Special Characters

Some PC*MILER location names include one or more special characters. An example of two locations that have the same name but are differentiated by an accented letter is Felipe Angeles, CI in Mexico. The mileage difference shown below illustrates how important a special character can be in a location name:



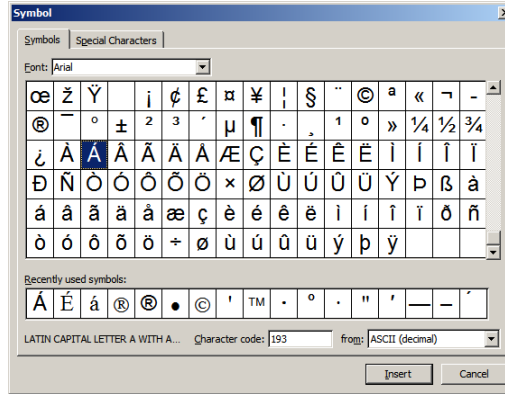
	A	B	C	D	E
1	Origin	Destination	Practical Miles		
2	Felipe Angeles, CI	Los Angeles, CA	876.1		
3	Felipe Ángeles, CI	Los Angeles, CA	1030.2		
4					

1. To enter a special character, first type the location name in the cell and then, in the formula bar, select the letter that will be replaced (“A” in this example):



	A	B	C	D	E
1	Origin	Destination	Practical Miles		
2	Felipe Angeles, CI	Los Angeles, CA	876.1		
3	Felipe Angeles, CI	Los Angeles, CA	876.1		
4					

2. Now select the Excel **Insert** menu (not shown above) > **Symbol** (in Microsoft Office 2007 or 2010, after clicking “Insert”, look to the far right on the ribbon) to open the Symbol window:



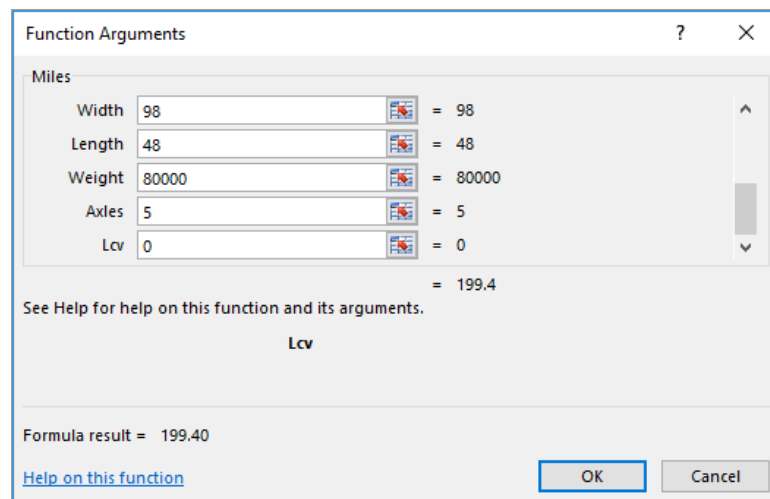
3. Select the letter that you want (in this example, “Á”) and click **Insert**. When you are finished, click **Cancel** to close the Symbol window.

NOTE: To search for an accented letter in a different font, make a selection from the **Font** pick list at the top of the Symbol window.

3.13 Vehicle Dimension Options

The functions *=Miles*, *=MilesEX*, *=Tolls*, *=TollsEx*, *=DiscountedTolls*, and *=DiscountedTollsEx* can be used with eight additional optional parameters for that can be edited for custom vehicle dimensions. If these fields are left blank, the default settings will be used.

To enter custom vehicle dimensions or see default values, you need to open the Function Arguments window (click *fx* on the tool bar), select one of the functions mentioned above, and then scroll down to see all the dimension fields.



When a custom vehicle weight and/or height is entered, PC*MILER route calculations will take into account restrictions on roads and bridges to ensure that the vehicle's weight/height is below the restriction(s). Additionally, PC*MILER supports calculation of routes and toll costs for smaller vehicles (vans, pickup trucks, SUVs, automobiles, etc.) that are classed less than 9,000 lbs./4,082 kgs.).

Available vehicle dimension options are:

Parameters	English Inputs		Metric Inputs	
	Default Settings	Acceptable Values	Default Settings	Acceptable Values
Units	0 (ENGLISH)	0/1	1	0/1
OverPerm	0 (False - i.e. not oversized)	0/1	0	0/1
Height	162 (inches)	> 0 - 162	4.11 (meters)	> 0 - 4.11
Width	98 (inches)	96 or less, >102	2.44 (meters)	2.44, 2.59
Length	48 (feet)	> 0	14.63 (meters)	> 0
Weight	80000 lbs.	1000 - 132000	36290 kg.	454 - 60000
Axle	5	2 - 14	5	2 - 14
Lcv	0 (False)	0/1	0	0/1

NOTE: For PC*MILER|Worldwide users, you must first set the region. See section 3.10 for instructions.

Additional Notes:

OverPerm – Should be set to 1 if the vehicle weight exceeds 80,000 lbs./36,287 kgs. (indicates that an oversize permit has been obtained). This option does not affect routing, it's only intended as a reminder that a permit may be required for the vehicle dimensions entered. Default = 0 (not oversized).

Width – Note that entering the larger vehicle width category will use State + National Network routing in the U.S. and Canada except where necessary for local deliveries.

Length – If the State + National Network routing option is active and a custom length is entered, both attributes are weighed in the overall calculation but the routing option takes precedence.

Axle – The number of axles on the truck, used only for toll cost calculation (does not affect routing); note that 2-axle includes two axle dual rear wheel vehicles only; any value can be entered, typical values are 2 (indicating an automobile) or 5 (indicating a truck); default = 5.

Lcv – Identifies a long combination (multiple trailer) vehicle if set to 1; default = 0.

See the *PC*MILER User's Guide* for more information on vehicle dimensions.

3.14 Default Option Settings

Default routing options that can be edited in the PCMSERVE.INI file include the **route type**, the **unit of distance** used in calculations (miles vs. kilometers), **borders open/closed**, the **order of states/countries** in the state/country summary report (alphabetical vs. travel order), and several others. See *Appendix B* for details about the PCMSERVE.INI. Keep reading below for additional important information on setting options.

IMPORTANT: Excel must be closed and reopened for changes set in the INI file or PC*MILER to take effect.

Default options may also be set in the PC*MILER user interface. The order of precedence for route option settings is as follows:

1. Options that are set directly in Spreadsheets prevail over the default options set in PC*MILER and the INI file.
2. Options set in PCMSERVE.INI prevail over those set in PC*MILER.
3. Options set in PC*MILER as defaults take effect only in the absence of settings 1 and 2.

3.15 Getting State/Country Distances with Toll Costs

The State/Country report lists toll, toll-free, ferry, and total distances by state/country. If the PC*MILER|Tolls add-on module is installed with PC*MILER, the last column on the right in this report will also provide toll fees for each leg of a trip and the total toll amount for the whole trip.

The steps to access this report vary depending on the version of Excel you are using. With Excel open, follow the instructions below for your version:

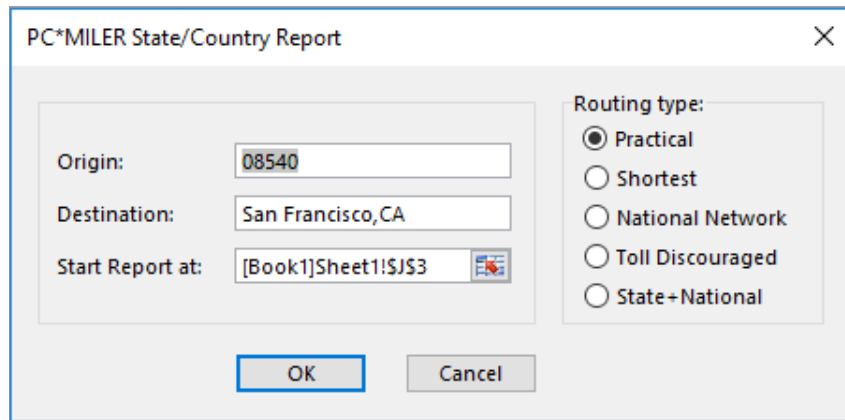
Excel 2003:

Select an empty cell, then select **PC*MILER State/Country Rpt...** from the Excel **Insert** menu.

Excel 2007 and Above:

Go to the Excel **Add-Ins** tab and click on **PC*MILER State/Country Rpt.**

In the State/Country dialog box, enter a city name and state abbreviation or postal code for the origin and destination. Select a **Routing type** if desired (the default is Practical), then click **OK**. (For more on setting the route type, see section 3.3, *Getting the Miles Between Two Points*.)



To have states or countries in the report listed in the order driven rather than alphabetically, change the default option in PC*MILER (*Route menu > Default Options > General Options* tab).

You can also change the state/country order default using the PCMSERVE.INI file. See *Appendix B* for more information about the PCMSERVE.INI.

Distances (and tolls, if the PC*MILER|Tolls add-on is installed) will be returned as in the example shown below (the generated report will use as many cells as needed in your spreadsheet).

State/Country	Total	Toll	Free	Ferry	Loaded	Empty	Toll(\$)
CA	204.6	6.5	198.1	0	204.6	0	25
IA	305.3	0	305.3	0	305.3	0	0
IL	162.9	7	155.9	0	162.9	0	4.8
IN	152.7	107.6	45.1	0	152.7	0	30.02
NE	453.9	0	453.9	0	453.9	0	0
NJ	68.7	0	68.7	0	68.7	0	0
NV	410	0	410	0	410	0	0
OH	236.1	218.9	17.2	0	236.1	0	35.25
PA	310.3	0.2	310.1	0	310.3	0	20
UT	193.2	0	193.2	0	193.2	0	0
WY	401.4	0	401.4	0	401.4	0	0
US	2899	340.2	2558.9	0	2899	0	115.07
TOTAL	2899	340.2	2558.9	0	2899	0	115.07

3.16 Getting the Drive Time Between Two Points

The prototype for the **=DriveTime** function is:

```
=DriveTime (origin, destination [, routing type])
```

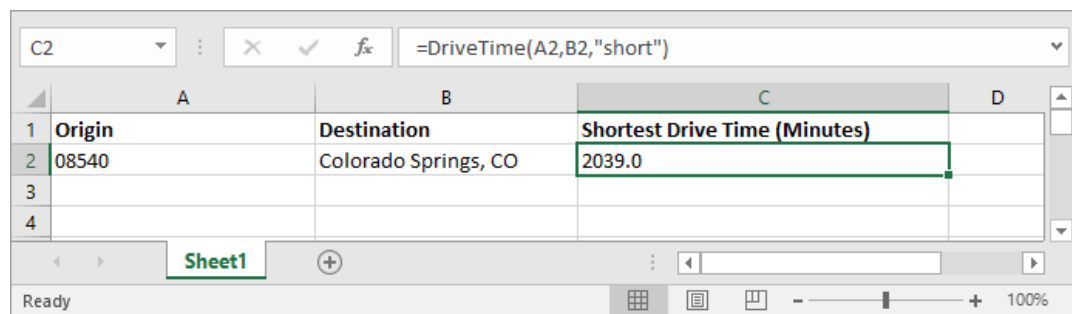
NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

DriveTime returns the driving time (in minutes) from the origin to the destination calculated using the PC*MILER database. Stop entry formats and available route options are the same as for the **Miles** function – see section 3.3, *Getting the Miles Between Two Points*.

NOTES for PC*MILER|Streets USERS: When stops are city names or postal codes, by default “Highway Only” routing is used. This default can be changed in the PCMSERVE.INI file (see *Appendix B*). See the note for Streets users in section 3.3, *Getting the Miles Between Two Points*.

To see an example of formatting street-level addresses into the format acceptable by PC*MILER|Spreadsheets, please see the **Other Formulas** tab of the DEMO_NA.xlsx workbook.

DriveTime returns **-1** if the origin, destination, or routing type is not valid. Below is an example of the Shortest drive time using cell references. By default, the returned drive time is in minutes, see steps in the HINT below for conversion.



HINT: To display drive times as “days hours:minutes” in Excel, you must first convert minutes to days by dividing by 24*60 in the DriveTime formula and then change the cell format as in the steps below.

1. Calculate the drive time: **=DriveTime (A2,B2)/(24*60)**
2. Highlight the cells whose format you want to change.

3. Select the “Cells...” command in the **Format** menu.
4. In the **Number** tab, choose the “Custom” category.
5. Choose the applicable format or manually enter:
d <space> hh:mm and click **OK**.

Example in days/hours/minutes:

Origin	Destination	Formula	RESULT (d hh:mm)
90210	19027	=drivetime(A2,B2,"prac")/(24*60)	1 23:24

3.17 Getting Toll Data

(North America Only) If the PC*MILER|Tolls add-on module is installed with PC*MILER, Spreadsheets will include two functions that calculate accurate, up-to-date toll charges in the U.S. and Canada. A sample spreadsheet using the Tolls functions is included in the EXCEL directory of the PC*MILER|Spreadsheets installation, the DEMO_NA_TOLL.xlsx file.

The =**Tolls** function works in the same way as the Miles function, with an extra parameter to indicate if active discount programs should be used. (See below for more on using discount programs.) The prototype is:

=Tolls (origin,destination,discount [,routeType])

Optionally, route type and vehicle dimension parameters can be used with this function and the =DiscountedTolls function (see below). The default route type is Practical. For more on route types, see the description of the =Miles function in section 3.3. For more on vehicle dimension options, see section 3.13.

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

The =Tolls function returns the total toll amount (in dollars) from the origin to the destination. If *discount* is set to FALSE, all cash tolls will be used. If set to TRUE, discount programs that are activated in PC*MILER (**Route Options** dialog > **Tolls** tab) will be used where they apply in computing tolls. *RouteType* is an optional parameter that defaults to “Practical”. (See section 3.3 for route type examples.)

	A	B	C	D
1	Origin	Destination	Toll Cost	
2	08540	19804	0.00	
3	08540	04609	137.23	
4	08540	05001	122.73	
5	08540	12181	20.81	
6	08540	90021	176.81	

The **=DiscountedTolls** function returns the portion of the tolls for the trip attributable to the specified discount program. If *discountProgram* is set to “Cash”, it returns the cash portion; if set to “EZPass” it returns the EZPass portion, etc. The prototype is:

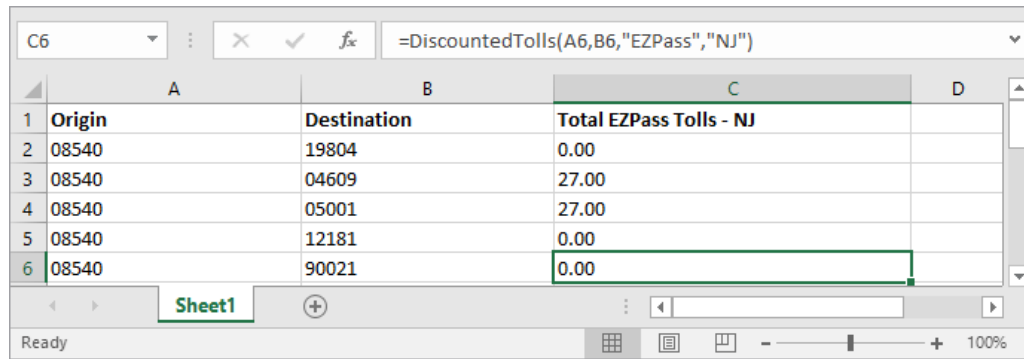
```
=DiscountedTolls (origin,destination,discountProgram
[,state][,routeType])
```

	A	B	C	D
1	Origin	Destination	EZPass Toll Cost	
2	08540	19804	0.00	
3	08540	04609	137.23	
4	08540	05001	122.73	
5	08540	12181	20.81	
6	08540	90021	141.61	

The *discountProgram* values must be spelled as shown in the **Route Options** dialog > **Tolls** tab in the PC*MILER application and listed at the end of this section. Spaces and dashes must be entered exactly as they appear there, but case does not matter (e.g. “E-Pass” or “e-pass” are both acceptable). If a state is specified, only the tolls in that state are returned. If the state is missing or an empty string, all states are included. In the example below, the toll costs in New Jersey using EZPass are calculated.

NOTE: To get toll costs by state for a whole route, use the State/Country Report described in section 3.15.

NOTE: There are no settings available in PC*MILER|Spreadsheets to calculate time-based toll costs. The reported toll costs are at the highest rate, or the peak rate for the route.



Currently Supported Discount Programs

Discount Program	Valid In
407 ETR Transponder	ON Canada
A25 Transponder	QC Canada
A30 EXPRESS Transponder	QC Canada
BreezeBy	OR
Cruise Card	GA
Downbeach Express Pass	NJ
E-Pass	TX
E-Pass Canada	NS Canada
ExpressPass	NY, ON Canada
EXpressToll	CO
EZ Tag	TX
EZPass	DE, IL, IN, ME, MD, MA, NH, NJ, NY, NC, OH, PA, RI, VA, WV
EZPass-MA	MA
EZPass-NJ	NJ
EZPass-WV	WV
FasTrak	CA
GeauxPass	LA
Good To Go	WA
GO-PASS	CO

Discount Program	Valid In
I-Pass	IL
K-Tag	KS
Laredo Trade Tag	TX
LeeWay	FL
MACPASS	NS Canada
NC Quick Pass	NC
NEXPRESS TOLL	MI, ON Canada
Palmetto Pass (PAL PASS)	SC
Peach Pass	GA
PikePass	OK
Quickpass	BC Canada
Riverlink	IN, KY
StraitPASS	PEI Canada
SunPass	FL
TollTag	LA, TX
TReO	BC Canada
TxTag	TX
Wabash Pass	IN

SPECIAL NOTE: The “EZPass-MA”, “EZPass-NJ”, or “EZPass-WV” options apply to those who purchased the EZPass service in Massachusetts, New Jersey, or West Virginia. **The “EZPass” option must also be selected along with any or all of the above for the discount to be calculated.** If EZPass was purchased outside Massachusetts, New Jersey, or West Virginia, choose the “EZPass” option when calculating toll costs.

NOTE Also: All Pay By Mail and video toll rates are considered as “Cash” in PC*MILER.

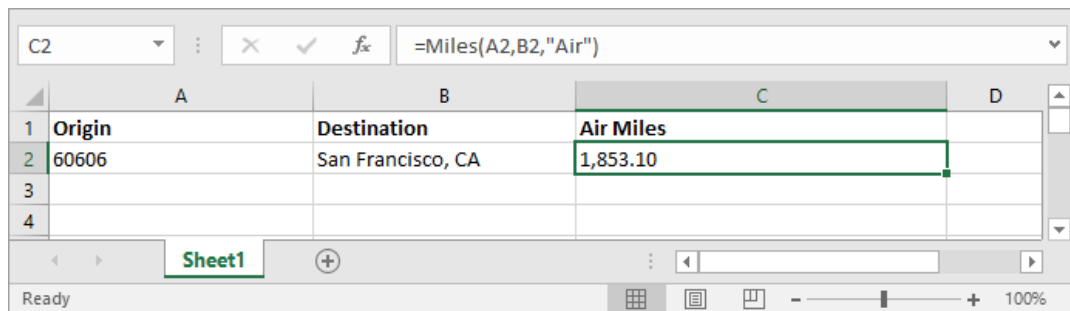
Discontinued Discount Programs

Discontinued Program	State	Versions Available	Version Discontinued	Reason
C-Pass	FL		29	Adopted SunPass
FAST LANE	MA and all EZPass facilities		29	Only EZPass is used now
Smart Tag	VA		29	Only EZPass is used now
NEXUS	NY, ON	27	28	Discontinued
I-Zoom	IN	21-26	27	Replaced by EZPass
B-Pass	NB	17-25	26	Toll discontinued
M-Tag	MD	17-23	24	Replaced by EZPass
NH Tokens	NH	17, 18	19	Replaced by EZPass
O-Pass	FL	21-23	24	Absorbed into SunPass
Ready Toll	OH	17, 18	19	There is no discount associated with this program, it's simply a "debit card" used to pay tolls
Transpass	ME	17- 23	24	Replaced by EZPass

3.18 Calculating Air Distance

PC*MILER|Spreadsheets is now able to calculate the straight line or “Air” distance between two points. “Air” is a fifth route type option for the **Miles** routing function, in addition to **Short, Prac, Natl,** and **Toll**.

For the Air distance, points are specified the same way as in other PC*MILER|Spreadsheets distance calculations, as either city/state, five digit U.S. ZIP [Canadian Postal Code and SPLC add-on modules are also available], or latitude/longitude. This is an example of Air distance using cell references:



3.19 Ex Functions for Combination Route Types *(check with Tom)*

```
=MilesEx(origin, destination [, routing type])
=DriveTimeEx(origin, destination [, routing type])
=TollsEx(origin,destination,discount [,routing Type])**
=DiscountedTollsEx(origin,destination,discountProgram
[,state][,routing Type])**
```

** These functions are only available if the PC*MILER|Tolls add-on module is installed.

Combined route types can be calculated in Spreadsheets by altering the CalcType setting in the pcmsolve.ini file (see *Appendix B*). However, the Ex functions shown above provide an alternate way to use any of the combination route type parameters listed below:

- **prac|toll** (Practical and Toll Discouraged)
- **prac|natl** (Practical and State + National Network)
- **prac|toll|natl** (Practical, Toll Discouraged, State + National Network)
- **short|natl** (Shortest and State + National Network)
- **short|toll** (Shortest and Toll Discouraged)
- **short|toll|natl** (Shortest, Toll Discouraged, State + National Network)

EX Function Examples:

Origin	Destination	Formula
08540	02205	=MilesEx(A2,B2, "prac toll")
08540	02205	=DriveTimeEx(A3,B3, "prac toll")/(24*60)
08540	02205	=TollsEx(A4,B4,TRUE, "prac toll")

The screenshot shows an Excel spreadsheet with the following data:

Origin	Destination	Practical Toll Discouraged Miles - Toll Cost
08540	San Francisco, CA	45.00
08540	Atlanta, GA	33.00
08540	Austin, TX	9.00

NOTE: Sample workbooks using these functions are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

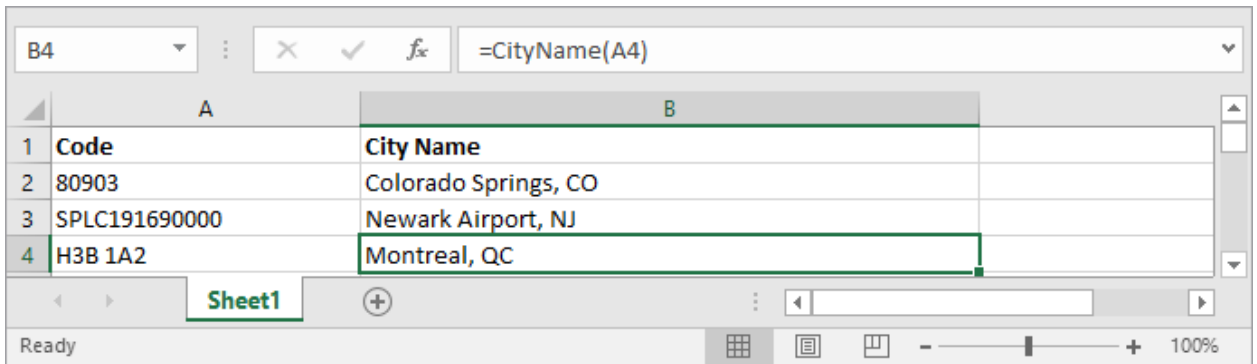
3.20 Getting the City Name from a ZIP/Postal Code

The prototype for the =CityName function is:

```
=CityName ( ZIPCode )
```

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

CityName returns the city name and state or country abbreviation corresponding to the given postal code. (Canadian Postal Codes, SPLC, and 3-digit U.S. ZIP codes representing centralized areas are now valid with this function, as are international postal codes for PC*MILER|Worldwide customers.) **CityName** returns **-1** if the postal code you entered is invalid.



CityName Function Examples:

Input	Formula	RESULT
80903	=cityname(A2)	Colorado Springs, CO
SPLC191690000	=cityname(A3)	Newark Airport, NJ
H3B 1A2	=cityname(A4)	Montreal, QC

3.21 Getting the ZIP/Postal Code from a City Name

The prototype for the **=ZIPCode** function is:

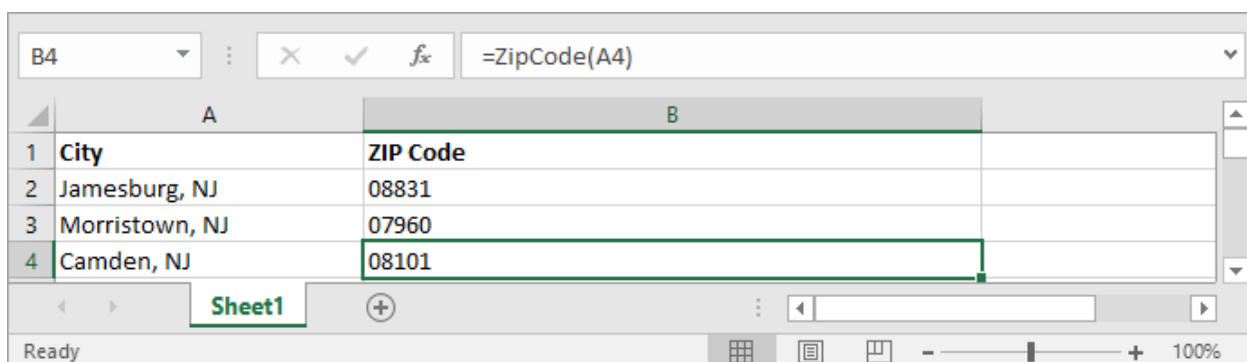
```
=ZIPCode (City,State)
```

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL.

ZIPCode returns the postal code corresponding to any U.S. place name. The place name is a city with a state abbreviation (e.g. 'Austin, TX'). **ZIPCode** returns a **-1** if the place name you entered is invalid.

The ZIPCode function can be used to test if a given number is a valid postal code. For example, the following Excel command will return **TRUE** if cell B2 contains a valid postal code and **FALSE** if it does not:

```
=NOT (EXACT(-1,ZIPCode(B2)))
```



Neither postal codes outside of the U.S. nor SPLC can be derived from this function. However, Canadian and Worldwide codes can be found using the Location Lookup dialog. The steps to access the Location Lookup vary depending on the version of Excel you are using:

Excel 2003:

In Excel 2003, select **Insert** menu > **PC*MILER Location Lookup...**, then enter a city/state (example: 'Montreal, QC') and click **Lookup**. All postal codes will be listed for the entered location. Click **OK** to close the dialog (the selected code won't be entered, this must be done manually).

Excel 2007 or 2010:

Click the **Add-Ins** tab and select **PC*MILER Location Lookup...**, then enter a city/state (example: 'Montreal, QC') and click **Lookup**. Click **OK** to close the dialog (the selected code won't be entered, this must be done manually).

3.22 Getting the Full ZIP/Postal Code and City Name

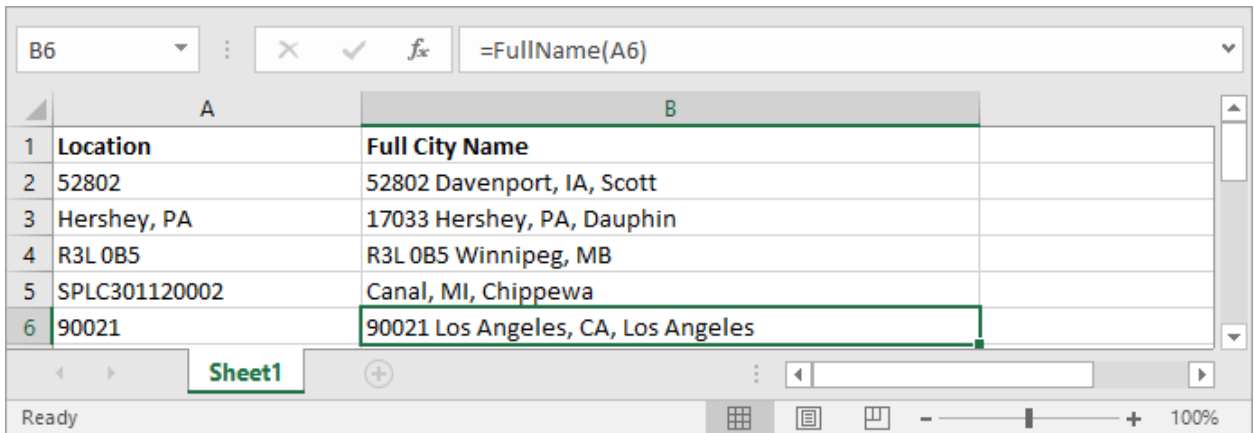
The prototype for the =**FullName** function is:

```
=FullName (CityNameOrZipCode)
```

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

This function returns the postal or SPLC code, city/state abbreviation, and county name corresponding to the given location. Any place name, postal code, or SPLC in the PC*MILER database may be used (Canadian Postal Codes included in PC*MILER, and international postal codes are additionally available for PC*MILER|Worldwide customers). **FullName** returns -1 if the PC*MILER place you entered is invalid.

HINT: If a Canadian city, Canadian postal code, or SPLC is entered in the function, it will return the city/state without a code.



The screenshot shows an Excel spreadsheet with the following data:

1	Location	Full City Name
2	52802	52802 Davenport, IA, Scott
3	Hershey, PA	17033 Hershey, PA, Dauphin
4	R3L 0B5	R3L 0B5 Winnipeg, MB
5	SPLC301120002	Canal, MI, Chippewa
6	90021	90021 Los Angeles, CA, Los Angeles

The formula bar at the top shows the formula =FullName(A6) applied to cell B6. The spreadsheet interface includes a status bar at the bottom showing 'Ready' and a zoom level of 100%.

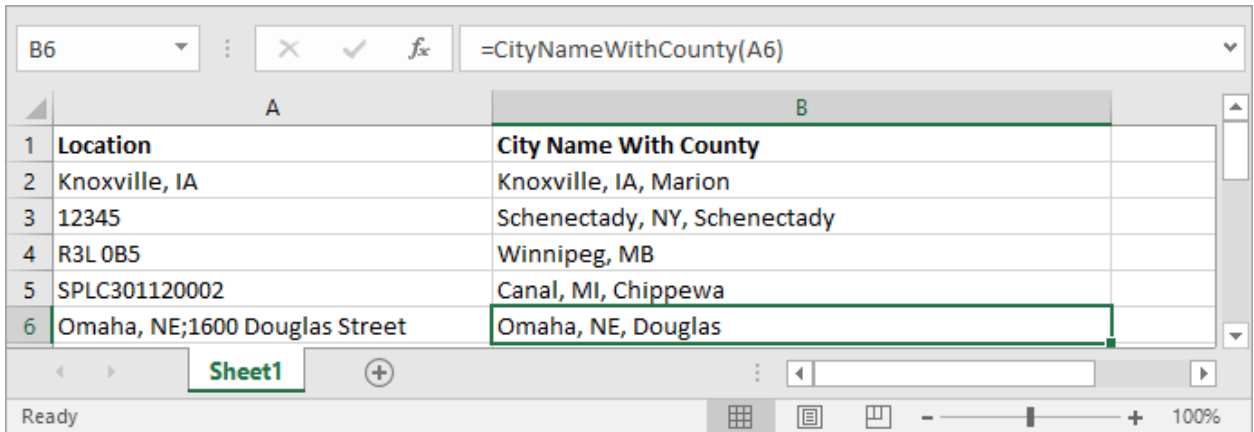
3.23 Getting the City Name/State/County from a Location

The prototype for the =CityNameWithCounty function is:

```
=CityNameWithCounty(placeName)
```

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

This function takes a PC*MILER location (city-state, postal code, six-digit Canadian Postal Code, PC*MILER|Worldwide international postal code, SPLC, PC*MILER custom name) and returns the city name with state and county. Any place name, postal code, or SPLC in the PC*MILER or database may be used. Returns -1 if the PC*MILER place you entered is invalid.



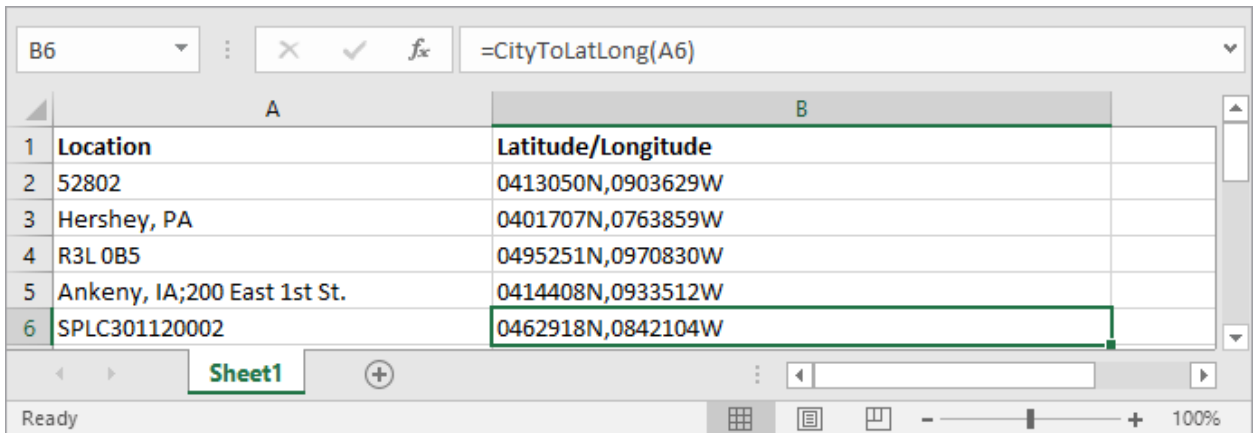
3.24 Getting a Latitude/Longitude from a Location

The prototype for the =CityToLatLong function is:

```
=CityToLatLong (CityStateOrZipcode)
```

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

This function takes a PC*MILER location (city-state, postal code, SPLC, truck stop, PC*MILER custom name) and returns the latitude/longitude of a point central to the location in degrees, minutes, seconds format (**dddmmssN,dddmmssW**). **CityToLatLong** returns **-1** if the PC*MILER place name you entered is invalid.



	A	B
1	Location	Latitude/Longitude
2	52802	0413050N,0903629W
3	Hershey, PA	0401707N,0763859W
4	R3L 0B5	0495251N,0970830W
5	Ankeny, IA;200 East 1st St.	0414408N,0933512W
6	SPLC301120002	0462918N,0842104W

IMPORTANT NOTE for PC*MILER|Worldwide Users: The appropriate region must be set in PC*MILER to match the input locations. Also, when entering abbreviations for countries outside North America (for example, Paris, FR), the format must match the setting in PC*MILER (Tools menu > *Country Abbreviations*) – either FIPS 2-character, FIPS 3-character, or ISO 2-character.

3.25 Getting a Place Name from a Latitude/Longitude

The prototype for the =**LatLongToCity** function is:

```
=LatLongToCity (LatLong)
```

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

This function takes a latitude/longitude (degrees, minutes, seconds or decimal degrees format) and returns the miles from the PC*MILER place name at the closest end of the closest road segment. This may be either a city-state or a road intersection. This function connects latitude/longitudes to the highway network as if you were routing to or from the latitude/longitude. **LatLongToCity** returns a **-1** if the lat/long format is invalid or is more than 200 miles from a road in the PC*MILER highway network.

The **CityToLatLong** and **LatLongToCity** functions may be, but are not necessarily reversible, because not all PC*MILER place names are located at the end points of road segments.

	A	B
1	Latitude/Longitude	City
2	0413050N,0903629W	0.0 52802 Davenport, IA, Scott
3	0401707N,0763859W	0.0 17033 Hershey, PA, Dauphin
4	0495251N,0970830W	0.0 R3L 0B5 Winnipeg, MB
5	0414408N,0933512W	0.0 50021 Ankeny, IA, Polk
6	0462918N,0842104W	0.0 49783 Sault Sainte Marie, MI, Chippewa

IMPORTANT NOTE for PC*MILER|Worldwide Users: The lat/longs entered must match the region set in PC*MILER. In North America, city returns will include state, province, or estado but not country. In all other regions, the city and country will be returned, with the country abbreviation being a FIPS 2-character, ISO 2-character, or FIPS 3-character, depending on the setting in PC*MILER (Tools menu > *Country Abbreviations*).

3.26 Getting a Latitude/Longitude from an Address

`=AddressToLatLong (Address)`

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

*(In North America with PC*MILER/Streets only)* This function takes a PC*MILER|Streets address and returns the latitude/longitude in degrees, minutes, seconds format (**dddmmssN,dddmmssW**). **AddressToLatLong** returns **-1** if the place name you entered is invalid. The function may be, but is not necessarily reversible. For a decimal format return, see *Appendix B* on the PCMSERVE.INI.

Address	Latitude/Longitude
Princeton, NJ;20 Nassau St.	0402056N,0743946W
Omaha, NE;1600 Douglas Street	0411531N,0955615W
06610;99 Olden Terrace	0411314N,0731152W

3.27 Getting an Address from a Latitude/Longitude

`=LatLongToAddress (LatLong)`

*(In North America with PC*MILER/Streets only)* This function takes a latitude/longitude (degrees, minutes, seconds or decimal degrees format) and returns the address. This function connects latitude/longitudes to the highway network as if you were routing to or from the latitude/longitude. **LatLongToAddress** returns a **-1** if the lat/long format is invalid or is more than 200 miles from a road in the PC*MILER|Streets highway network. The function may be, but is not necessarily reversible.

NOTE: The output of this function has been enhanced so that, for roads that have both a street name and a route number, the route number will be returned in parentheses after the street name. For example, in Version 29 and higher:

=latlongtoaddress(addressstolatlong("Princeton, NJ; 245 Nassau Street")) returns **08540 Princeton, NJ, Mercer; 245 Nassau Street (NJ-27)**.

Latitude/Longitude	Address
0402056N,0743946W	08542 Princeton,NJ, Mercer;18 North Nassau Street (NJ-27)
0411531N,0955615W	68102 Omaha,NE,Douglas;1649 Douglas Street (US-6)
0401209n,0744214w	08610 Trenton,NJ, Mercer;34 Kenwood Terrace

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

3.28 Multi-Stop Routes

A good way to calculate a multi-stop route is to put all stops along the route, including the origin and destination, in the same column:

	A	B	C	D	E
1	MULTI-STOP ROUTING				
2			Mileage:		
3	Origin:	08540			
4		Baltimore, MD	145.8		
5		Raleigh, NC	307.9		
6		Atlanta, GA	406.5		
7		Jacksonville, FL	345.7		
8		Dallas, TX	993.7		
9	Destination:	San Francisco, CA	1730.1		
10					
11		TOTAL MILES:	3929.7		
12					

In the example above, the origin is in cell B3, the first stop is in B4, second stop in B5, etc. The Miles formula was entered in cell C4 to get the mileage from 08540 to Baltimore, MD; i.e. =Miles(B3,B4). This formula was then dragged from C4 down the length of the stop list to obtain leg mileages. (To replicate a formula down a column, click and hold the small square in the bottom right corner of the

cell that contains the formula and drag down over the other cells in the column. See Excel Help for more about this and other Excel spreadsheet capabilities.) For more examples, see the “Demo*.xlsx” files in the Excel folder of your PC*MILER installation.

Total mileage was added at the bottom using the Excel function =SUM(C4:C9) to add up all miles in the “Mileage” column.

3.29 Hub Routes

Using the same principle as for multi-stop routing above, Hub mileage (mileage from one “hub” location to multiple destinations) can be derived by entering the hub location at the top of a column and placing multiple destinations under it in the same column.

Simply set the origin in the =Miles formula in each cell to the stop at the top of the list; in the example below, to get miles from 08540 to Atlanta,GA, cell C6 contains the formula =Miles(B3,B6).

	A	B	C	D	E
1	HUB ROUTING				
2			Mileage:		
3	Origin:	08540			
4		Baltimore, MD	145.8		
5		Raleigh, NC	452.5		
6		Atlanta, GA	829.4		
7		Jacksonville, FL	894.7		
8		Dallas, TX	1510.0		
9	Destination:	San Francisco, CA	2899.0		
10					
11		TOTAL MILES:	6731.4		
12					

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

3.30 Getting Toll Data from Latitude/Longitudes

If PC*MILER|Tolls was purchased and installed, toll data can be calculated in PC*MILER|Spreadsheets using latitude/longitude points.

In the example below, the *Discount* parameter is set to TRUE so that discount programs that are activated in PC*MILER (**Options** dialog > **Tolls** tab) will be used where they apply in toll calculations. The *RouteType* optional parameter is missing and therefore defaults to Practical routing. See section 3.17 for more on the Tolls function.

	A	B	C	D	E
1	Origin	Destination	Toll Cost		
2	0415233n,0873808w	0402318n,0743917w	\$106.71		
3					

NOTE: Sample workbooks using this function are in the Excel folder of your PC*MILER installation, usually in C:\ALK Technologies\PCMILER31\EXCEL. See section 1.3 for a description of the provided workbooks.

3.31 Using the Avoid/Favor/Override Roads Option

If the “Custom” option is turned on in the PCMSERVE.INI file (see below), PC*MILER|Spreadsheets will use the avoid/favor/override road settings created in PC*MILER. Note that favoring a road does not absolutely guarantee that it will be used (see the PC*MILER *User’s Guide* or Help for a description of avoiding, favoring, and overriding roads).

This option can also be set by changing the CustomRoute setting to TRUE in the PCMSERVE.INI file located in your Windows or Windows NT folder. The default is FALSE. See *Appendix B* for more about the .INI file.

CustomRoute=TRUE

3.32 Using Hazardous Materials Compliant Routing

(North America only) If the separate PC*MILER|HazMat add-on module has been purchased, PC*MILER|Spreadsheets can calculate routes that are hazardous material compliant for various types of hazardous material. The hazmat-compliant routing type can be set as the default in the PCMSERVE.INI file by editing the following line in a text editor:

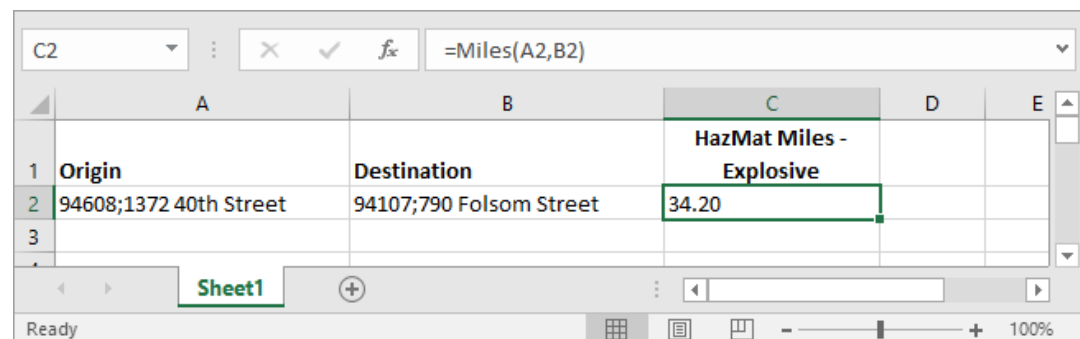
```
[OPTIONS]  
HazRoute=None
```

Example:

```
[OPTIONS]  
HazRoute=Explosive
```

The available PC*MILER hazmat-compliant route types are listed in *Appendix B* – see the [OPTIONS] section. See the PC*MILER *User's Guide* or Help for descriptions of these route types.

NOTE: When the default route type is changed in PCMSERVE.INI, you won't see any indication of the route type in Excel.



‘Run-time error 1004’

If you get the error “Run-time error ‘1004’: Programmatic access to Visual Basic Project is not trusted”, follow these steps (or equivalent steps in your version of Excel – the steps below are for Excel 10):

1. Select File > *Options*.
2. Select Trust Center > *Trust Center Settings*.
3. Select *Macro Settings*.
4. Check “Trust access to the VBA project object model”.

Postal Codes with Leading Zeroes

If you enter a postal code with a leading zero (e.g. 08540) Excel may interpret it as a number and remove the leading zero. To correct this problem, either type an apostrophe in front of the postal code (e.g. ‘08540) or format the field as text (“Text” category of the “Format Cells” command).

NOTE: In North America, the database also includes 3-digit U.S. ZIP Codes.

Converting Minutes to Hour:Minute Format

The **DriveTime** function returns the drive time between two points in minutes, but sometimes it is convenient to see the time in hour:minute format. To display drive times as “days hours:minutes” in Excel, you must first convert minutes to days by dividing by 24*60. For example:

=DriveTime (A2,B2)/(24*60)

‘The INI File Was Not Found’ Error

When loading the Add-In for the first time, this error may sometimes appear. Exit and re-enter Excel.

‘Sub or Function Not Defined’ Error

When making calls to PC*MILER|Spreadsheets from a macro sheet, you may see this error message. To fix the problem, from the **Tools** menu select **References** and make sure that **pcmsrv.xls** is checked on.

'-1' Error

This error occurs when the user enters a location (postal code or a city/state place name) that is not a valid PC*MILER location.

NOTE: If you add or change custom locations in PC*MILER using "Import Custom Places" or "Manage Custom Places," Excel will not recognize those changes until you exit PC*MILER to save the changes on disk, as well as shut down Excel and restart it.

This error can also occur if the Add-In was not able to correctly load the PC*MILER database.

'Cannot Find VBAEN.OLB' Error

NOTE: We do not support making modifications to this file. Please make a backup copy before making any changes

Excel will attempt to access this file when it tries to load the Add-In. First, make sure that the file **vbaen.olb** exists. It should be either in the Windows folder or the SYSTEM sub-folder inside the Windows folder. If the file does not exist, you must re-install Windows.

If the file exists, then the problem is in the Windows Registration File (**reg.dat**). The location of **vbaen.olb** is saved in the **reg.dat**. Make sure the path to this file in the **reg.dat** points to the correct location. You can run **REGEDIT /V** to view/edit the **reg.dat**.

Look for the key "**TypeLib**". Look for the **Win17** selection. Under this section should be a complete path to the **vbaen.olb**. Ensure the full path is correct.

Problems Using Custom Routing From PC*MILER

If you have problems using custom routing that you created in PC*MILER, set the value of the following item in the PCMSERVE.INI file to TRUE. The PCMSERVE.INI file is located in your Windows or Winnt directory.

CustomRoute = TRUE

'Error 1004: Programmatic Access to Visual Basic Project Is Not Trusted'

This error may occur when the user tries to open Excel after an older version of PC*MILER (Version 29 or older) has been uninstalled. The problem occurs

because the uninstall process deletes the “AccessVBOM” registry key on your computer. This registry key grants permission to use our Excel Add-ins. This issue was fixed in PC*MILER Version 30, but uninstalling older versions may still introduce this bug. If you are experiencing this problem, you can either:

- 1) Modify your permissions in Excel using the following guideline to enable Trust Access to VBA Object Model (which is very easy to follow):
<http://stackoverflow.com/questions/5300770/how-to-check-from-net-code-whether-trust-access-to-the-vba-project-object-mode> ; or
- 2) Reinstall PC*MILER (any version) so that the AccessVBOM registry key will be re-enabled.

Jurisdictions in the United States, Canada, and Mexico

States/Provinces in the United States & Canada

(For country abbreviations in North America, see “North America” in the Country Codes section of this appendix)

AL	Alabama
AK	Alaska
AB	Alberta
AZ	Arizona
AR	Arkansas
BC	British Columbia
CA	California
CO	Colorado
CT	Connecticut
DE	Delaware
DC	Dist. of Columbia
FL	Florida
GA	Georgia
ID	Idaho
IL	Illinois
IN	Indiana
IA	Iowa
KS	Kansas
KY	Kentucky
LA	Louisiana
ME	Maine
MB	Manitoba
MD	Maryland
MA	Massachusetts
MI	Michigan
MN	Minnesota
MS	Mississippi
MO	Missouri
MT	Montana

NE	Nebraska
NV	Nevada
NB	New Brunswick
NH	New Hampshire
NJ	New Jersey
NM	New Mexico
NY	New York
NL	Newfoundland & Labrador
NC	North Carolina
ND	North Dakota
NT	Northwest Territory
NS	Nova Scotia
NU*	Nunavut
OH	Ohio
OK	Oklahoma
ON	Ontario
OR	Oregon
PA	Pennsylvania
PE	Prince Edward Island
QC	Quebec
RI	Rhode Island
SK	Saskatchewan
SC	South Carolina
SD	South Dakota
TN	Tennessee
TX	Texas
UT	Utah
VT	Vermont
VA	Virginia
WA	Washington
WV	West Virginia
WI	Wisconsin
WY	Wyoming
YT	Yukon Territory

* The same FIPS code, NU, is used for Nicaragua and the province of Nunavut, Canada in the PC*MILER database.

Mexican Estados

AG	Aguascalientes
BJ	Baja California
BS	Baja California Sur
CP	Campeche
CH	Chiapas
CI	Chihuahua
CU	Coahuila de Zaragoza
CL	Colima
DF	Cuidad de Mexico
DG	Durango
GJ	Guanajuato
GR	Guerrero
HG	Hidalgo
JA	Jalisco
EM	Mexico (Estado)
MH	Michoacan de Ocampo
MR	Morelos
NA	Nayarit
NX *	Nuevo Leon
OA	Oaxaca
PU	Puebla
QA	Queretaro Arteaga
QR	Quintana Roo
SL	San Luis Potosi
SI	Sinaloa
SO	Sonora
TA	Tabasco
TM	Tamaulipas
TL	Tlaxcala
VZ	Veracruz
YC	Yucatan
ZT	Zacatecas

* Please note that by default, “NX” is used for Nuevo Leon because the province of Newfoundland and Labrador in Canada already utilizes “NL” in the database. However, there is an option that sets “NL” as the abbreviation for Nuevo Leon: in the File application menu, select *Application Settings...* . In the *NL Abbreviation* drop-down, select *Use for Nuevo Leon* and click **Save**.

Country Codes For All Worldwide Regions

Africa

COUNTRY NAME	FIPS	ISO2	ISO3	GENC2	GENC3
Algeria	AG	DZ	DZA	DZ	DZA
Angola	AO	AO	AGO	AO	AGO
Benin	BN	BJ	BEN	BJ	BEN
Botswana	BC	BW	BWA	BW	BWA
Burkina Faso	UV	BF	BFA	BF	BFA
Burundi	BY	BI	BDI	BI	BDI
Cameroon	CM	CM	CMR	CM	CMR
Cape Verde	CV	CV	CPV	CV	CPV
Central African Republic	CT	CF	CAF	CF	CAF
Chad	CD	TD	TCD	TD	TCD
Comoros	CN	KM	COM	KM	COM
Congo Democratic Republic (Kinshasa)	CG	CD	COD	CD	COD
Congo, Republic of the (Brazzaville)	CF	CG	COG	CG	COG
Djibouti	DJ	DJ	DJI	DJ	DJI
Egypt	EG	EG	EGY	EG	EGY
Equatorial Guinea	EK	GQ	GNQ	GQ	GNQ
Eritrea	ER	ER	ERI	ER	ERI
Ethiopia	ET	ET	ETH	ET	ETH
Gabon	GB	GA	GAB	GA	GAB
Gambia	GA	GM	GMB	GM	GMB
Ghana	GH	GH	GHA	GH	GHA
Guinea	GV	GN	GIN	GN	GIN
Guinea-Bissau	PU	GW	GNB	GW	GNB
Ivory Coast (Côte d'Ivoire)	IV	CI	CIV	CI	CIV
Kenya	KE	KE	KEN	KE	KEN
Lesotho	LT	LS	LSO	LS	LSO
Liberia	LI	LR	LBR	LR	LBR
Libya	LY	LY	LBY	LY	LBY
Madagascar	MA	MG	MDG	MG	MDG
Malawi	MI	MW	MWI	MW	MWI
Mali	ML	ML	MLI	ML	MLI
Mauritania	MR	MR	MRT	MR	MRT
Mauritius	MP	MU	MUS	MU	MUS
Mayotte	MF	YT	MYT	YT	MYT
Morocco	MO	MA	MAR	MA	MAR
Mozambique	MZ	MZ	MOZ	MZ	MOZ
Namibia	WA	NA	NAM	NA	NAM
Niger	NG	NE	NER	NE	NER
Nigeria	NI	NG	NGA	NG	NGA

COUNTRY NAME	FIPS	ISO2	ISO3	GENC2	GENC3
Reunion	RE	RE	REU	RE	REU
Rwanda	RW	RW	RWA	RW	RWA
Saint Helena	SH	SH	SHN	SH	SHN
Sao Tome and Principe	TP	ST	STP	ST	STP
Senegal	SG	SN	SEN	SN	SEN
Seychelles	SE	SC	SYC	SC	SYC
Sierra Leone	SL	SL	SLE	SL	SLE
Somalia	SO	SO	SOM	SO	SOM
South Africa	SF	ZA	ZAF	ZA	ZAF
South Sudan	OD	SD	SDW	SS	SSD
Sudan	SU	SD	SDN	SD	SDN
Swaziland	WZ	SZ	SWZ	SZ	SWZ
Tanzania	TZ	TZ	TZA	TZ	TZA
Togo	TO	TG	TGO	TG	TGO
Tunisia	TS	TN	TUN	TN	TUN
Uganda	UG	UG	UGA	UG	UGA
Western Sahara	WI	EH	ESH	EH	ESH
Zambia	ZA	ZM	ZMB	ZM	ZMB
Zimbabwe	ZI	ZW	ZWE	ZW	ZWE

Asia

Bangladesh	BG	BD	BGD	BD	BGD
Bhutan	BT	BT	BTN	BT	BTN
British Indian Ocean Territory	IO	--	--	--	--
Brunei	BX	BN	BRN	BN	BRN
Burma (Myanmar)	BM	MM	MMR	MM	MMR
Cambodia	CB	KH	KHM	KH	KHM
China	CH	CN	CHN	CN	CHN
Guam	GQ	GU	GUM	GU	GUM
Hong Kong	HK	HK	HKG	HK	HKG
India	IN	IN	IND	IN	IND
Indonesia	ID	ID	IDN	ID	IDN
Japan	JA	JP	JPN	JP	JPN
Korea, North	KN	KP	PRK	KP	PRK
Korea, South	KS	KR	KOR	KR	KOR
Laos	LA	LA	LAO	LA	LAO
Macao	MC	MO	MAC	MO	MAC
Malaysia	MY	MY	MYS	MY	MYS
Maldives	MV	MV	MDV	MV	MDV
Mongolia	MG	MN	MNG	MN	MNG
Nepal	NP	NP	NPL	NP	NPL
Northern Mariana Islands	CQ	MP	MNP	MP	MNP

COUNTRY NAME	FIPS	ISO2	ISO3	GENC2	GENC3
Pakistan	PK	PK	PAK	PK	PAK
Palau	PS	PW	PLW	PW	PLW
Papua New Guinea	PP	PG	PNG	PG	PNG
Philippines	RP	PH	PHL	PH	PHL
Singapore	SN	SG	SGP	SG	SGP
Solomon Islands	BP	SB	SLB	SB	SLB
Sri Lanka	CE	LK	LKA	LK	LKA
Taiwan	TW	TW	TWN	TW	TWN
Thailand	TH	TH	THA	TH	THA
Timor-Leste	TT	--	TMP	TL	TLS
Vietnam	VM	VN	VNM	VN	VNM

Europe

Akrotiri	AX	--	--	QZ	XQZ
Albania	AL	AL	ALB	AL	ALB
Armenia	AM	AM	ARM	AM	ARM
Andorra	AN	AD	AND	AD	AND
Austria	AU	AT	AUT	AT	AUT
Azerbaijan	AJ	AZ	AZE	AZ	AZE
Belarus	BO	BY	BLR	BY	BLR
Belgium	BE	BE	BEL	BE	BEL
Bosnia and Herzegovina	BK	BA	BIH	BA	BIH
Bulgaria	BU	BG	BGR	BG	BGR
Croatia	HR	HR	HRV	HR	HRV
Cyprus	CY	CY	CYP	CY	CYP
Czech Republic	EZ	CZ	CZE	CZ	CZE
Denmark	DA	DK	DNK	DK	DNK
Dhekelia	DX	--	--	XD	XXD
Estonia	EN	EE	EST	EE	EST
Faroe Islands	FO	FO	FRO	FO	FRO
Finland	FI	FI	FIN	FI	FIN
France	FR	FR	FRA	FR	FRA
Georgia	GG	GE	GEO	GE	GEO
Germany	GM	DE	DEU	DE	DEU
Gibraltar	GI	GI	GIB	GI	GIB
Greece	GR	GR	GRC	GR	GRC
Guernsey	GK	--	--	GG	GGY
Hungary	HU	HU	HUN	HU	HUN
Iceland	IC	IS	ISL	IS	ISL
Ireland	EI	IE	IRL	IE	IRL
Isle of Man	IM	IM	IMN	IM	IMN
Italy	IT	IT	ITA	IT	ITA

COUNTRY NAME	FIPS	ISO2	ISO3	GENC2	GENC3
Jersey	JE	--	--	JE	JEY
Kazakhstan	KZ	KZ	KAZ	KZ	KAZ
Kyrgyzstan	KG	KG	KGZ	KG	KGZ
Latvia	LG	LV	LVA	LV	LVA
Liechtenstein	LS	LI	LIE	LI	LIE
Lithuania	LH	LT	LTU	LT	LTU
Luxembourg	LU	LU	LUX	LU	LUX
Macedonia	MK	MK	MKD	MK	MKD
Malta	MT	MT	MLT	MT	MLT
Moldova	MD	MD	MDA	MD	MDA
Monaco	MN	MC	MCO	MC	MCO
Montenegro	MJ	ME	MNE	ME	MNE
Netherlands	NL	NL	NLD	NL	NLD
Norway	NO	NO	NOR	NO	NOR
Poland	PL	PL	POL	PL	POL
Portugal	PO	PT	PRT	PT	PRT
Romania	RO	RO	ROU	RO	ROU
Russia	RS	RU	RUS	RU	RUS
San Marino	SM	SM	SMR	SM	SMR
Serbia	RI	SRB	SRB	RS	SRB
Slovakia	LO	SK	SVK	SK	SVK
Slovenia	SI	SI	SVN	SI	SVN
Spain	SP	ES	ESP	ES	ESP
Svalbard and Jan Mayen Islands	SV	SJ	SJM	XR	XSV
Sweden	SW	SE	SWE	SE	SWE
Switzerland	SZ	CH	CHE	CH	CHE
Tajikistan	TI	TJ	TJK	TJ	TJK
Turkey	TU	TR	TUR	TR	TUR
Turkmenistan	TX	TM	TKM	TM	TKM
Ukraine	UP	UA	UKR	UA	UKR
United Kingdom	UK	GB	GBR	GB	GBR
Uzbekistan	UZ	UZ	UZB	UZ	UZB
Vatican City	VT	VA	VAT	VA	VAT

Middle East

Afghanistan	AF	AF	AFG	AF	AFG
Bahrain	BA	BH	BHR	BH	BHR
Gaza Strip	GZ	--	XGZ	XG	XGZ
Iran	IR	IR	IRN	IR	IRN
Iraq	IZ	IQ	IRQ	IQ	IRQ
Israel	IS	IL	ISR	IL	ISR
Jordan	JO	JO	JOR	JO	JOR

COUNTRY NAME	FIPS	ISO2	ISO3	GENC2	GENC3
Kuwait	KU	KW	KWT	KW	KWT
Lebanon	LE	LB	LBN	LB	LBN
Oman	MU	OM	OMN	OM	OMN
Palestinian Territory	--	PS	PSE	PS	PSE
Qatar	QA	QA	QAT	QA	QAT
Saudi Arabia	SA	SA	SAU	SA	SAU
Syria	SY	SY	SYR	SY	SYR
United Arab Emirates	AE	AE	ARE	AE	ARE
West Bank	WE	--	XWB	XW	XWB
Yemen	YM	YE	YEM	YE	YEM

North America

Canada	CA	CA	CAN	CA	CAN
Greenland	GL	GL	GRL	GL	GRL
Mexico	MX	MX	MEX	MX	MEX
Puerto Rico*	PR*	PR	PRI	PR	PRI
Saint Pierre and Miquelon	SB	PM	SPM	PM	SPM
United States	US	US	USA	US	USA
Virgin Islands, U.S.	VI	VI	VIR	VI	VIR

* Note: "PR" for Puerto Rico is a USPS code, not a FIPS code.

Oceania

American Samoa	AQ	AS	ASM	AS	ASM
Australia	AS	AU	AUS	AU	AUS
Cook Islands	CW	CK	COK	CK	COK
Fiji	FJ	FJ	FJI	FJ	FJI
French Polynesia	FP	PF	PYF	PJ	PYF
French Southern and Antarctic Islands	FS	TF	ATF	TF	ATF
Kiribati	KR	KI	KIR	KI	KIR
Marshall Islands	RM	MH	MHL	MH	MHL
Micronesia, Federated States of	FM	FM	FSM	FM	FSM
Midway Island	MQ	UM	--	QM	XMW
Nauru	NR	NR	NRU	NR	NRU
New Caledonia	NC	NC	NCL	NC	NCL
New Zealand	NZ	NZ	NZL	NZ	NZL
Niue	NE	NU	NIU	NU	NIU
Norfolk Island	NF	NF	NFK	NF	NFK
Pitcairn Islands	PC	PN	PCN	PN	PCN
Samoa (Western Samoa)	WS	WS	WSM	WS	WSM
Tokelau	TL	TK	TKL	TK	TKL

COUNTRY NAME	FIPS	ISO2	ISO3	GENC2	GENC3
Tonga	TN	TO	TON	TO	TON
Tuvalu	TV	TV	TUV	TV	TUV
Vanuatu	NH	VU	VUT	VU	VUT
Wake Island	WQ	WQ	XWK	QW	XWK
Wallis and Futuna	WF	WF	WLF	WF	WLF

South America

Anguilla	AV	AI	AIA	AI	AIA
Antigua and Barbuda	AC	AG	ATG	AG	ATG
Argentina	AR	AR	ARG	AR	ARG
Aruba	AA	AW	ABW	AW	ABW
Bahamas	BF	BS	BHS	BS	BHS
Barbados	BB	BB	BRB	BB	BRB
Belize	BH	BZ	BLZ	BZ	BLZ
Bermuda	BD	BM	BMU	BM	BMU
Bolivia	BL	BO	BOL	BO	BOL
Bonaire, Sint Eustatius, Saba	--	--	--	BQ	BES
Brazil	BR	BR	BRA	BR	BRA
Caribbean Netherlands	NT	AN	BES	BQ	BES
Cayman Islands	CJ	KY	CYM	KY	CYM
Chile	CI	CL	CHL	CL	CHL
Colombia	CO	CO	COL	CO	COL
Costa Rica	CS	CR	CRI	CR	CRI
Cuba	CU	CU	CUB	CU	CUB
Curacao	UC	--	--	CUW	CUW
Dominica	DO	DM	DMA	DM	DMA
Dominican Republic	DR	DO	DOM	DO	DOM
Ecuador	EC	EC	ECU	EC	ECU
El Salvador	ES	SV	SLV	SV	SLV
Falkland Islands (Islas Malvinas)	FK	FK	FLK	FK	FLK
French Guiana	FG	GF	GUF	GF	GUF
Grenada	GJ	GD	GRD	GD	GRD
Guadeloupe	GP	GP	GLP	GP	GLP
Guantanamo Bay	--	--	--	A2	AX2
Guatemala	GT	GT	GTM	GT	GTM
Guyana	GY	GY	GUY	GY	GUY
Haiti	HA	HT	HTI	HT	HTI
Honduras	HO	HN	HND	HN	HND
Jamaica	JM	JM	JAM	JM	JAM
Martinique	MB	MQ	MTQ	MQ	MTQ
Montserrat	MH	MS	MSR	MS	MSR
Nicaragua*	NU*	NI	NIC	NI	NIC

COUNTRY NAME	FIPS	ISO2	ISO3	GENC2	GENC3
Panama	PM	PA	PAN	PA	PAN
Paraguay	PA	PY	PRY	PY	PRY
Peru	PE	PE	PER	PE	PER
Saint Barthalemy	TB	--	BLM	BL	BLM
Saint Kitts and Nevis Islands	SC	KN	KNA	KN	KNA
Saint Lucia	ST	LC	LCA	LC	LCA
Saint Martin	RN	--	MAF	MF	MAF
Saint Vincent and the Grenadines	VC	VC	VCT	VC	VCT
Sint Maarten	NN	--	SXM	SX	SXM
Suriname	NS	SR	SUR	SR	SUR
Trinidad and Tobago	TD	TT	TTO	TT	TTO
Turks and Caicos Islands	TK	TC	TCA	TC	TCA
Uruguay	UY	UY	URY	UY	URY
Venezuela	VE	VE	VEN	VE	VEN
Virgin Islands, British	VG	VG	VGB	VG	VGB

* The same FIPS code, NU, is used for Nicaragua and the province of Nunavut, Canada in the PC*MILER database.

Official Sources

FIPS Country Codes:

<http://geonames.nga.mil/ggmagaz/geonames4.asp> and
<http://www.state.gov/s/inr/rls/4250.htm>

ISO2 Country Codes:

http://www.iso.org/iso/country_codes/iso_3166_code_lists/english_country_names_and_code_elements.htm and
http://www.iso.org/iso/english_country_names_and_code_elements#s

ISO 3 Country Codes:

<http://unstats.un.org/unsd/methods/m49/m49alpha.htm>

GENC2 and GENC3 Country Codes (Geopolitical Entities, Names and Codes):

Issued by the National Geospatial-Intelligence Agency

<https://www1.nga.mil/Pages/default.aspx>

You can modify the PCMSERVE.INI file to set default trip options so that these options are active each time you use PC*MILER|Spreadsheets. The INI file is in your Windows or Windows NT folder, and can be opened using Notepad, Wordpad, or another text editor.

Note that trip options can also be set using the PC*MILER|Spreadsheets Excel functions or in the PC*MILER user interface. See section 3.14, *Route Options and Default Settings*, for the order of precedence between route options set in the PC*MILER user interface, those set using Spreadsheets functions, and those set using the PCMSERVE.INI.

Settings in the INI that can be added or edited are listed below. If you open the INI file, you won't see all of these settings in it. If any key doesn't have a value or is not found in the INI file, it assumes the default value or the value set in the PC*MILER user interface.

IMPORTANT NOTE: Excel must be closed and reopened for INI file setting changes to take effect.

<u>KEY</u>	<u>Valid Values</u>	<u>Description</u>
[Engine]		
ShowEngine=	$\frac{0}{1}$	Should Connect automatically start the engine (1) or not (0). Default = 0
[Logging]		
Enable=	$\frac{0}{1}$	Should log files be generated (1) or not (0). Default = 0
File=		Path/file name of log file.
Append=	$\frac{0}{1}$	Append to old file (1) or write over (0). Default = 0
MaxStrLen=	Integer	Assign number of characters to truncate log messages to (optional). Default = 254

		Default=254
DisplayTime=	0 <u>1</u>	When DisplayTime = 1, date/time are shown on each line in the log file. Default = 1
[Defaults]		
CalcType=	<u>Practical</u> Shortest National AvoidToll Air	Set the default routing type: most Practical, Shortest by distance, favor National Network highways with 53' designated, avoid tolls, or Air (straight line). Default = Practical Note: Toll-Discouraged and State + National Network are based on Practical miles.
Units=	<u>Miles</u> Kilometers	What unit of measure should distance be shown in. Default = Miles
ChangeDest=	TRUE <u>FALSE</u>	When optimizing the route, should the trip's destination be optimized also (T). Default = False
Borders=	<u>TRUE</u> FALSE	Should the engine try to keep routes within the United States (F), or can they cross and recross the borders at will (T). Default = True
HubMode=	TRUE <u>FALSE</u>	Calculate the routes from the origin to each stop (T), not through each stop (F). Default = False
AlphaOrder=	<u>TRUE</u> FALSE	List the states in the State Report in alphabetical order (T) or in the order driven (F). Default = True
FerryMiles=	<u>TRUE</u> FALSE	Use ferry distances in mileage and cost calculations (T), or don't use (F). Default = True

LightVehicle=	TRUE <u>FALSE</u>	Should Light Vehicle routing be used (available if PC*MILER/Streets is installed – see the PC*MILER User’s Guide for more on routing types). Default = False
MAPPING	TRUE <u>FALSE</u>	(AS/400 parameter) Default = False
EXPMAP	TRUE <u>FALSE</u>	(AS/400 parameter) Default = False
[Options]		
CustomRoute=	TRUE <u>FALSE</u>	Should PC*MILER Connect use Custom routing. Default = False
HazRoute= (only with the PC*MILER/Hazmat add-on)	<u>None</u> General* Explosive Inhalant Radioactive Corrosive Flammable HarmfultoWater	Hazardous material routing types for North America are: none (hazmat routing disabled), general, explosive, inhalant, radioactive, corrosive, or flammable. For Europe or Oceania , hazmat route types are: none, general, explosive, flammable, or harmful to water. (Europe & Oceania require PC*MILER/Worldwide) Default (all regions) = None *NOTE: “General” = “Other” in the PC*MILER user interface, they are the same route type and algorithm.
PartialCityMatch=	TRUE <u>FALSE</u>	Enables the return of a city match on a partial match of 28 characters. Default = False
HistoricalRoadSpeeds=	TRUE <u>FALSE</u>	Toggles activation of traffic data for use in time-based routing. Equivalent to the “Traffic Enabled” option in PC*MILER. Default = False

UseUSPostCodes=	<u>TRUE</u> <u>FALSE</u>	When set to TRUE, if a 5-digit postal code might be a U.S. or a Mexican code, the U.S. code will be used. Default = True (<i>see note below</i>)
UseMexPostCodes=	TRUE <u>FALSE</u>	If set to TRUE, if a 5-digit postal code might be U.S. or Mexican, the Mexican code will be used. Default = False NOTE: If UseUSPostCodes and UseMexPostCodes are both FALSE, or are not in the INI, the default U.S. code will be used.
UseStreets= (only if Streets data is installed with PC*MILER)	TRUE <u>FALSE</u>	Should street-level (T) or highway-only (F) routing be used when stops are city names or postal codes. Default = False
UseNLAbbrevInMX	TRUE <u>FALSE</u>	When set to TRUE, the “NL” abbreviation geocodes to Nuevo Leon in Mexico.
CountryAbbrevType=	<u>FIPS</u> ISO2 ISO3 GENC2 GENC3	For PC*MILER Worldwide, this option sets the country code format that will be accepted when using city name/country abbreviations as locations in regions other than North America. Default = FIPS

[ConnectOptions]

AvoidFavorAutoSave=	TRUE <u>FALSE</u>	(PC*MILER Connect) This option can be set to TRUE to autosave avoids/favors on shutdown. Default = False (Note: when this line is not present, default = false)
GeofenceAutoSave=	TRUE <u>FALSE</u>	(PC*MILER Connect) This option can be set to TRUE to autosave geofence data on shutdown. Default = True (Note: when this line is not present, default = false)

LatLonFormatDecimal=	TRUE <u>FALSE</u>	Pertains to the function PCMSAddressToLatLong(), causing the function to return lat/longs in decimal degrees (e.g. 40.348848N,74.662703W). When this line is not included in the .INI or is included but =FALSE, the function returns degrees, minutes, seconds (e.g. 0402056N,0743946W). Default = False (Note: when this line is not present, default = false)
----------------------	----------------------	---

[MappingOptions]

AvoidFavorAutoSave=	TRUE <u>FALSE</u>	(PC*MILER Mapping) This option can be set to TRUE to autosave avoids/favors on shutdown. Default = False (Note: when this line is not present, default = false)
---------------------	----------------------	---

GeofenceAutoSave=	<u>TRUE</u> FALSE	(PC*MILER Mapping) This option can be set to TRUE to autosave geofence data on shutdown. Default = True (Note: when this line is not present, default = false)
-------------------	----------------------	--

[Defaults]

Region=	<u>Africa</u> Asia Europe ME NA Oceania SA	Region default is NA (North America). Other regions available with PC*MILER Worldwide: Africa, Asia, Europe, Middle East, Oceania, South America.
---------	--	---

ProductName=	PC*MILER
--------------	----------

ProductVersion=	31.0	Current version of PC*MILER.
-----------------	------	------------------------------

DLLPath=	Usually C:\ALK Technologies\ PCMILER31\app	Path to the current installation of PC*MILER.
----------	---	---