# Table of Major PI+ Changes – versions PI+ v1.1 through PI+ v2.0

## v2.0

Introducing REMI 2.0, our next generation of REMI models (dynamic, intuitive, smart).

Incorporated BLS 2014-2024 Employment Projections.

New estimates of Wage/Compensation/Earnings Rate coefficients.

New estimates of Investment coefficients.

History now begins in 2001 instead of 1990.

Added new Economic Profile Table (1969-2014).

Intellectual Property Products separated from Equipment investment.

Changes to College Population and Military Population
Estimation

Interface redesign for simulation inputs, new Policy Variable Selector and redefined policy variables.

New Custom policy variables for Investment, Consumer, Government, and Tourism Expenditures, as well as Government and Farm Industries, Imports, and Exports. Also new policy variables for Consumption, Government, and Investment Demand and Gas Tax, Sales Tax, Property Tax, and Consumer Price with alternative price elasticity.

Modified policy variables for Personal Taxes and Fuel Cost.

New Policy Variable Search Field.

New Industry Search Field.

New Policy Variable Import Utility.

Personalized settings added for map colors, screen size, and region selection.

New Macroeconomic Values options to incorporate employment or labor productivity assumptions.

Improved file association for REMI workbooks.

New "Export All" option for Occupation by Industry results.

New Forecast Log.

New Status Bar.

Redesigned Custom Variable Editor.

Redesigned Scenario Creator.

New Help Button.

FAQS and Documentation added to Model Details.

#### v1.7

New estimates of State and Local Government Spending parameters.

New estimates of Relative Housing Price parameters.

New estimates of Consumption parameters.

New Labor Productivity/Access policy variables.

Incorporation of BEA Regional Price Parities.

Expanded Property Income Components.

Expanded Transfer Payment Components.

Modified historical residence adjusted employment, industry output, and investment calculations.

Software changes to allow for automatic parallelization.

New National Demographic forecast option.

New National Forecast Assumptions Module.

Model calculations and results expanded to double precision.

New year selection dialog.

Software changes to allow for future "internationalization".

### v1.6R

Historical data now includes restoration of previously eliminated Local Area Personal Income Statistics from the BEA.

#### v1.6

Incorporated BLS 2012-22 Employment Projections

Updated real \$ base year from 2005 to 2009.

New estimates of Trade Flow parameters (industry betas and sigmas).

Added ability to start and stop control or simulation in any forecast year.

Upgraded software to target Microsoft 64-bit Windows platform.

Modified data suppression system to handle loss of county employment data, etc.

Interface redesign – replaced "pearl" button with new FILE tab.

Detailed industry policy variables (translators) updated to reflect new BEA 2007 Benchmark IO table.

Display/reference data added to Macroeconomic, Employment, and Population Update procedures.

Employment feedback option added to Population Update.

v1.5

Fine tuned data suppression methodology.

New Custom Industry option for Farm.

Expanded detail added for Employment by Occupations results display.

Customization of non-existent local industries now possible.

Employment Update feature enhanced.

Detailed industry policy variables now reconciled with applicable aggregate industries.

Endogenous Residence Adjustment implemented.

New Commuter Earnings policy variables added.

New Commuter Earnings result table added.

Detailed policy variable and results lists now available for display under the Model Details button.

New Unemployment Rate result table added.

v1.4

New 160 industries (reduced from 169) and modified 70 industries to match the detail supported by the new BLS input-output table.

New 75 consumption categories (reduced from 79) to match the detail supported by the new BLS input-output table.

Integrated BizDev Blueprint.

v1.3

Integrated Custom Industry policy variables.

Forecast period extended to 2060.

New Regional Population Update.

Improved data handling for Employment Update.

New Migration Equation/Response.

New Investment Response.

New Housing Price Response.

Calculator Enhancements.

New Custom Units and Currency Types in results view.

New Industry NAICS labels.

New Demographic Policy Variables (Group Ages and Group Races) v1.2

New 169 industries to match the detail supported by the new BLS input-output table.

New data suppression estimation procedure to fine tune the starting estimates for the constrained optimization procedure utilized for state data. Also expanded the constrained optimization procedure to run for county level data.

New estimates of Trade Flow parameters (industry betas and sigmas).

Modified government expenditure predictions to be based on average per capita state government demand in the last history year instead of the current year's state government spending.

Alternative model option for state and local government spending response to GDP.

Addition of Natural Disaster scenario.

Integrated and updated translator policy variables.

New policy variables for the farm industry have been added.

Map/diagram view of model to assist in finding policy variables and result items.

Real \$ base year has been updated from 2000 to 2005.

Addition of 3D chart option.

Updated DevSight presentation.

New Report feature (initial version) added to assemble user-selected tables and charts into a single PDF document.

New results have been added to the display, especially for farm and government concepts.

Reduced memory requirements for large models by restructuring storage of results and eliminating outdated code.

REMI would like to acknowledge and thank Don Grimes of the University of Michigan for his collaboration on the national forecast.