1.Statement of Current Longitudinal Database Capacity

In order to document, analyze and evaluate data about the impact of workforce development programs and education systems on Michigan's labor market outcomes, the Workforce Development Agency, State of Michigan needs to design and develop a workforce longitudinal data system and link it with the education data available through the Statewide Longitudinal Data System. Through this grant opportunity, Michigan proposes to create a WLDS by longitudinally linking currently disparate data systems containing education and workforce data through secure means.

Currently, Workforce Investment Act (WIA), Wagner-Peyser and Trade Adjustment Assistance (TAA) data are housed in the Workforce Development Agency, State of Michigan's (WDA) One-Stop Management Information System (OSMIS). While the WIA, Wagner-Peyser and TAA data are currently located in the same system, the state is unable to report programmatic or participant information across various workforce programs within the system. Unemployment Insurance Wage Records and Benefit Data and Labor Market Information are in different systems overseen by the Departments of Licensing and Regulatory Affairs (LARA) and Technology, Management and Budget (DTMB), respectively. The Center for Educational Performance and Information (CEPI) collects and reports data about Michigan's K-12 public schools in accordance with the requirements of state and federal laws. CEPI is also currently building the Michigan P-20 education statewide longitudinal data system (SLDS). The State Budget Office within DTMB oversees CEPI.

Michigan's Workforce Longitudinal Data System (WLDS) will link these data sets, aligning participant files. Program participant files will also be electronically linked to the state's Unemployment Insurance Wage Records and Benefit Data and with aggregate Labor Market Information allowing the state to analyze the impact of workforce development and job training services on employment outcomes and economic

indicators. By the end of the grant period, Michigan will have a fully functional WLDS to analyze and synthesize information for the continuous improvement of workforce policies and programs.

1.A. Capacity to Maintain Secure Data Storage

Workforce programming information is the responsibility of WDA and is stored securely by DTMB. These data include participant and programming information related to WIA, Wagner-Peyser, and TAA. In addition, WDA's OSMIS incorporates data for a portion of Temporary Assistance for Needy Families (TANF) and Supplemental Nutrition Assistance Program (SNAP) recipients who participate in workforce programming, specifically Michigan's TANF work participation program, Jobs, Education and Training (JET) and the Food Assistance Employment and Training Program..

Data servers for the aforementioned programs are located in secure computing environments managed by DTMB staff in accordance with DTMB Enterprise Security practices, processes and policies. DTMB Enterprise Security includes responsibility for strictly controlled hardware access, appropriate software and patch levels on servers and State of Michigan firewalls controlling access, as well as the data back-up and restoration, functionality, disaster protocols, secure transfers, and user authentications needed to maintain systems' integrity. The State maintains several firewalls to directly protect data from unauthorized users and ensure against the loss of confidential information. All staff have submitted to a security procedure to reduce the security threat from potential employees and unauthorized users.

Access to Michigan's systems are controlled through a precise process that restricts each user to a pre-defined access capability based upon a set of well-defined service class codes that have been established for various job classifications. Access to data is protected at the program, table and system level, allowing access based solely on necessity of job classification and assignment. Specific DTMB staff members are responsible for initiating user account changes based on requests received from designated management personnel in each of the user areas. This requires assessment of user activity on the system; proactive steps are taken to report staff turnover and to identify dormant accounts and then remove them from the

system. Access capability based upon well-defined service class codes determines staff access to each subsystem within the OSMIS. Various levels of view, insert, update, and delete privileges are provided depending on the user's role in their organization. All data is transmitted via Hypertext Transfer Protocol Secure (HTTPS) in which key pieces of Personally Identifiable Information (PII), including Social Security Number (SSN), are encrypted and then decrypted upon reaching the database. Once collected from the OSMIS and UIA and matched for the WLDS, SSNs will not be redisplayed to users or transmitted again.

Michigan's SLDS, maintained by the Center for Educational Performance and Information (CEPI), will serve as the platform to match and display longitudinally linked workforce and education data upon completion of this project. The SLDS database servers are also housed in a secure computing environment managed by DTMB staff. Access to the Michigan SLDS is controlled through both database accounts as well as accounts in the SAS environment, both of which are needed to access the educational data. Account access is granted through approvals by CEPI and Michigan Department of Education data stewards. Personally identifiable data is not stored within the Michigan SLDS and is kept in a separate, secure database environment.

All participant files are assigned a statewide Unique Identification Code (UIC) from the Michigan Student Data System (MSDS), which will be extended to all WLDS participant files, created through an algorithm that cannot be deciphered or reverse engineered. All web-based and other reports automatically mask small-group data to prevent inadvertent identification of a participant and any participant level data is only available to authorized users. Single record data extracts for research purposes are processed by an algorithm that substitutes a unique research ID without publishing the operational UIC.

1.B. Partnerships between the State workforce system and the State education agency

A proposed Memorandum of Understanding (MOU) detailing the partnership between WDA, LARA, DTMB and CEPI for workforce longitudinal data-sharing and linkage to the SLDS will be finalized and

executed during the first three months of WLDS project performance as specified in the Work Plan contained in Table A on page 10. A copy of the MOU included in this grant application as Attachment 2.

Both WDA and CEPI are committed to ensuring that the state's educational data is able to link to the state's workforce data. In 2010, CEPI was awarded $10.6 million from the U.S. Department of Education to support the development of an SLDS. Through this opportunity, CEPI has ensured that the SLDS is able to receive and store the workforce data. These staff members will be responsible for supporting agencies and individuals requesting information for analysis and reporting requirements. They will also be responsible for helping to assign UIC information.

WDA has established a partnership with the Michigan Department of Education (MDE) and the CEPI to enhance development and linkages to the SLDS. Key to this partnership is WDA's $1 million Unemployment Insurance Employment Services Modernization funding contribution for alignment of workforce and employment data with educational data in the SLDS.

An example of WDA and CEPI's commitment to linking Michigan's educational and workforce data is the prototype UIC matching on three years of enrollment data from the Michigan Adult Education Reporting System (MAERS) which CEPI performed in January 2012. CEPI processed 117,495 records through UIC matching. This process compares each submitted record against the Student Master Record table using first name, last name, date of birth and gender, as well as suffix and middle name or initial. Based on the fields used for matching, a score is calculated that determines how closely the submitted record matches to records in the Student Master Record table. The calculated score determines if the records are a match or a close match requiring user intervention. This prototype process resulted in matches for 75% of the adult education records with a corresponding UIC from the P-20 education data system. At this time, CEPI is continuing to work with WDA on a permanent systematic approach for incorporating the UIC into the MAERS. Resolution of the data matching between CEPI and the MAERS is expected to be completed by the end of June 2012.

In addition, State of Michigan Executive Order 2010 – 15 established the P-20 Longitudinal Data System Advisory Council on October 18, 2010, to guide the development and implementation of a comprehensive P-20 longitudinal data system. Executive Order 2010-15 further solidifies the partnerships between the WDA, MDE and CEPI. The P-20 Advisory Council consists of representatives from state agencies, preschool, elementary, secondary, postsecondary, and other adult learner education entities, as well as from the workforce. Representatives from the Governor's Office, CEPI, State Budget Office, MDE, and House and Senate fiscal agencies also participate on the P-20 Advisory Council. WDA, along with appropriate postsecondary education stakeholders, currently represent the postsecondary and workforce communities on the P-20 Advisory Council. This group recommends policy items for review by CEPI and MDE and helps establish model data-sharing agreements, memorandums of understanding and informs CEPI of policy implications for various Michigan SLDS data items being used for longitudinal analysis. It also recommends research questions and policy issues to be addressed via the Michigan SLDS.

1.C. Workforce Data Linkage

Formation of the WLDS will link Michigan's workforce programming data (WIA, Wagner-Peyser, and TAA etc.) and Unemployment Insurance Wage and Benefit Data with aggregated labor market information from LMI, allowing the state to analyze the impact of workforce development and job training services on employment outcomes. Data housed in the WLDS will be linked with existing participant files in the SLDS and imported into the SLDS. Student educational data will not be stored in the WLDS, and record sharing will only occur for evaluation purposes among authorized representatives designated by the state education agency (MDE) in accordance with the *FERPA*. All educational participant data is identified by a CEPI administered UIC. Michigan will apply existing and new UICs to linked WLDS data. Once the WLDS data is linked to the SLDS, the WDA, CEPI, UIA and LMI will be able to extract educational information for workforce program participants to analyze the impact of educational and workforce program participation

on workforce outcomes. Figure 1: Workforce Data Flow, below, illustrates the planned workforce and educational program data linkages.

Figure 1 – Workforce Data Flow
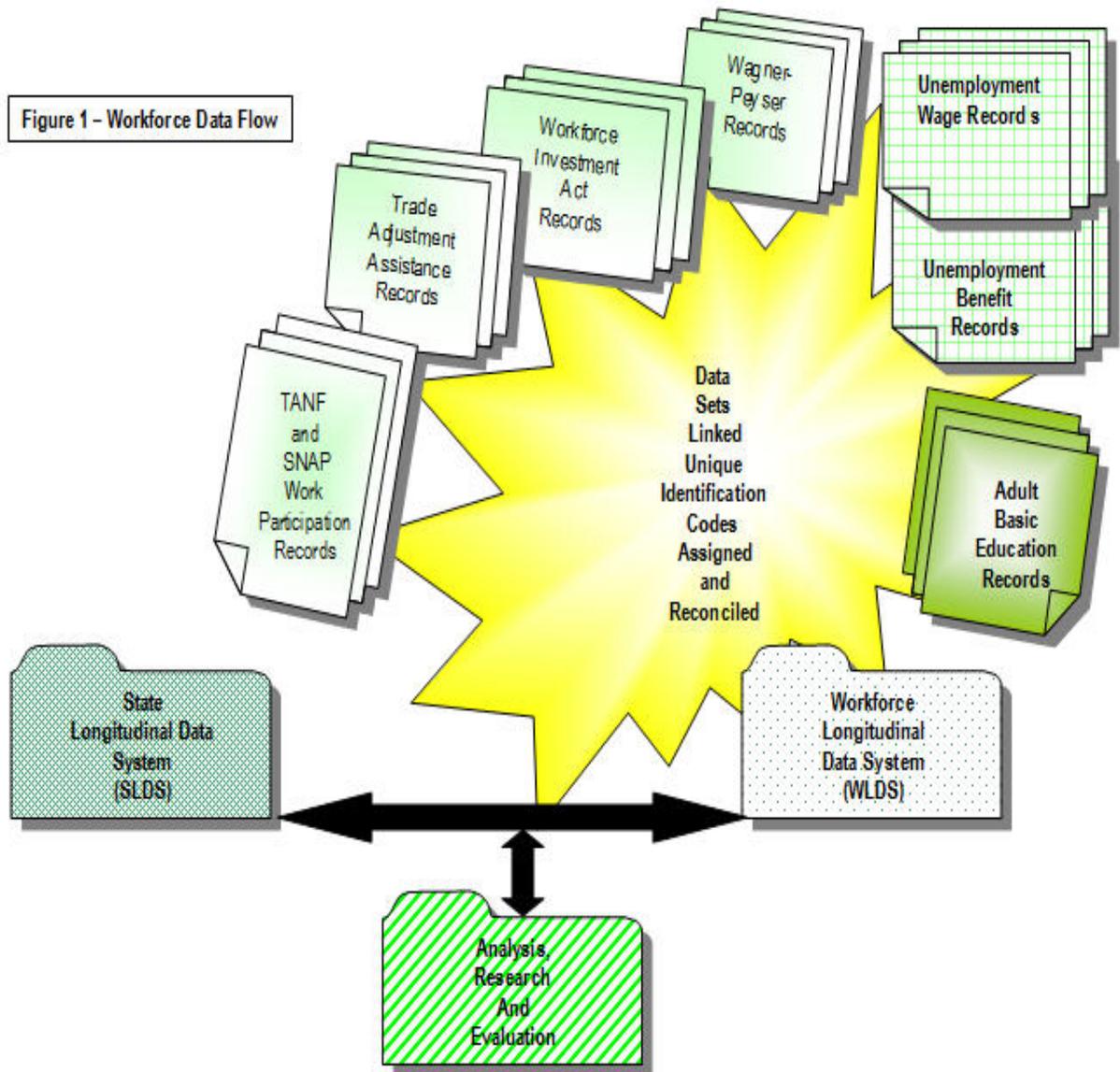
1.D. Statistical Analysis and Reporting on Workforce System to Stakeholders

Linkage of a WLDS to the SLDS will greatly enhance Michigan's ability to analyze the impact of state programs and to make appropriate policy changes to meet future needs. The WDA will continue to provide all necessary and required federal program reports and comprehensive reports of outcomes for investments from core funding sources, including substantial federal investments in education and training

and private foundations with an interest in supporting Michigan. The connection between the WLDS and SLDS will allow Michigan to better understand the impact and effectiveness of its innovative workforce development strategies. WDA is actively engaged with the workforce development and postsecondary education providers, especially Michigan community colleges, in several nationally sponsored initiatives that focus on student success. The initiatives include Achieving the Dream, Breaking Through, and the Joyce Foundation's Shifting Gears.

WDA representatives who reside on the P-20 Advisory Council – described in Section 1.B. – provide guidance and insight into programmatic questions and will ensure that necessary and interested partners and stakeholders are provided with information emerging from resulting WLDS analyses. The state is committed to using this information to inform policy and program development and continuous improvement.

The state is also developing a mechanism to allow for program participants and potential customers to be able to review aggregated program performance data to help them make informed program choices. WDA makes current program analyses readily available to the public through the distribution of regular programming reports and through the WDA and LMI websites.

The Bureau of Labor Market Information conducts a number of economic and workforce research projects and develops a host of labor market products to serve public needs, including monthly labor market estimates, an up-to-date website featuring labor market data, and customer specific material such as Michigan's Labor Market News. LMI also responds to requests for labor market information data from researchers, evaluators, and the media, etc.

In addition, WDA operates the Michigan Talent Bank & Michigan Jobs and Career Portal (http://www.michigan.gov/careers), which provides program participants, potential consumers, employers and the general public with information on all aspects of workforce development and education and training providers for WIA eligible programming. The WDA is also operating Pure Michigan Talent Connect

(www.mitalent.org), a key state-level initiative which provides a new web-based talent marketplace for citizens and employers that is a central hub for comprehensive career and job data.

1.E. Partnerships with Neighboring States

Michigan is submitting a single state grant application and does not plan to partner with any neighboring states.

2. Plan Outline

2.A. Objectives for creating and using WLDS

The WDA is committed to coordinating adult education, postsecondary education, and workforce development systems and services, as well as employment services. Aligned systems will allow the WDA, MDE, LARA, DTMB and other relevant state agencies to collect key data that tracks the achievement of students and workers through programs and into the workforce and to inform policy and programming decisions. Moreover, integrating disparate systems data longitudinally will eliminate duplicative, unreliable, and/or erroneous collection methodologies.

Linkage of a WLDS to the SLDS is critical for ensuring Michiganders are able to access quality workforce and training programs and to transition into family sustaining careers. The knowledge gained through gathering and linking high-quality workforce data elements into the state's comprehensive SLDS will allow for program and system analysis that leads to informed programming decisions, improved program performance, and customer choice. Through this plan, Michigan will achieve the following objectives:

- Form a WLDS with WIA, Wagner-Peyser, TAA, TANF work participation and UI Wage Record and Benefit Data;

- Link the WLDS to the SLDS using CEPI-administered UICs;

- Integrate aggregated labor market information data about employment outcomes into the WLDS;

- Improve workforce data quality with increased Social Security Number validation; and

- Utilize longitudinal data to inform consumer choice and program and policy decision-making.

Creating workforce longitudinal databases

In order to form the WLDS, Michigan will undertake several key steps to electronically link each data set on a participant level through secure network connections. See Table A, below on page 10, for the specific tasks, steps and timelines which will be used to form the WLDS.

The WLDS will align workforce program participant files contained in the OSMIS to UI Wage Record and Benefit Data for the past four years using SSN matching. For participants who did not or were not required to provide SSNs, a reconciliation process using names, dates of birth and any other available identification characteristics will occur to minimize duplicative participant files in the WLDS. Much of the WIA, Wagner-Peyser and TAA data has a common applicant ID that can be reverse engineered to align with SSN if participant's supplied SSNs in another workforce program. Since Michigan has prioritized transforming adult learning in our state, the state will include adult education participants in the new WLDS. The WLDS will then match participant data with aggregated LMI data to assess employment outcomes.

Figure 2, below depicts the WLDS project process.

Figure 2 – Project Process Flow

Step 1
- Execute MOU
- Hire Staff

First 90 Days
Preparation Activities

Step 2
- Assign UICs to Workforce Data
- Reconcile Unmatched Data
- Share Data with the State Longitudinal Data System

21 Months
Build the Workforce Longitudinal Data System

Step 3
- Prepare Analysis and Evaluation

12 Months
Conduct Analysis and Evaluation on Data
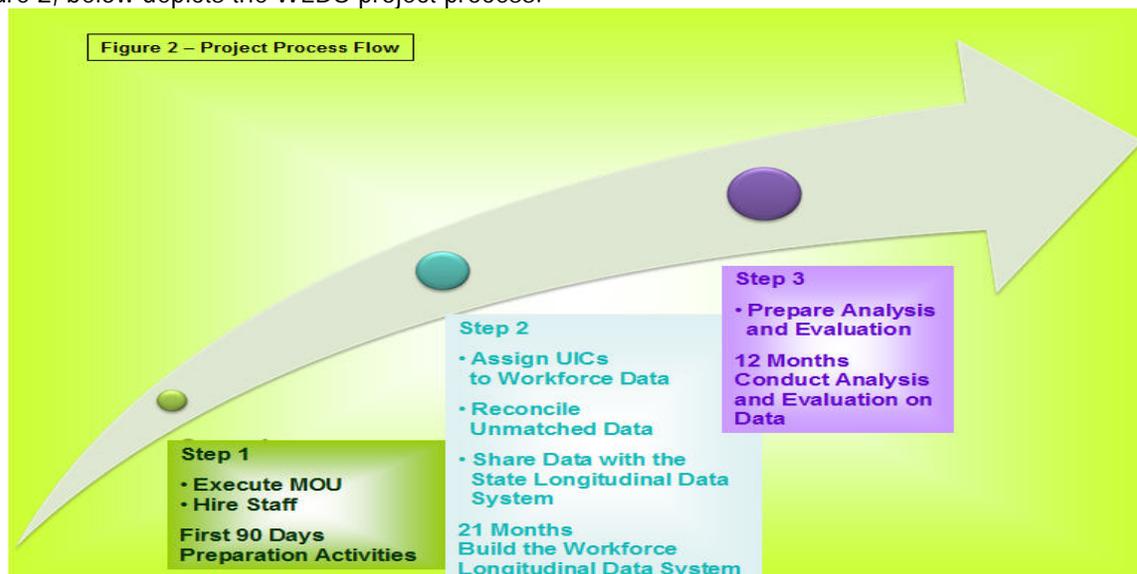
Table A: WLDS Formation Work Plan

Development Step	Timeframe	Agency/Individuals Responsible
1. Execute State Agencies' Partnership MOU	Months 1 thru 3	WDA, UIA, LMI, CEPI and DTMB; Agency Directors
2. Support State Workforce Agencies to understand the UIC	Months 1 thru 36 and continuing after grant period	WDA, WLDS manager and analysts to be hired
3. Develop General Analysis Questions and Determine Necessary Fields to import to SLDS	Months 1 & 2 – initial analysis; continuing process	WDA, WLDS manager and analysts, as well as UIA, LMI, and CEPI staff
4. Conduct facilitated Requirements Gathering Sessions to describe in detail and approve the reports and functionality required by the WLDS and the linking with the SLDS	Months 1 thru 3 – initial analysis; continuing process	WDA, WLDS manager and analysts, DTMB, UIA, LMI, and CEPI staff
5. Match OSMIS Data with UI Records and Benefits Data by SSN and aggregate LMI	Months 3 thru 6	WLDS manager and analysts, UI and DTMB staff
6. Add UIC Field to OSMIS Data (Work –force Programs & Adult Education)	Months 3 & 4	WLDS manager and analysts, as well as WDA and DTMB staff
7. Match Workforce Data (Aligned OSMIS, UI and LMI Data) with any available K-12/PSE UICs in CEPI	Months 7 thru 12 – continuing process	WLDS manager and analysts, DTMB, WDA and CEPI staff
8. Resolve differences with existing UICs	Months 13 thru 24 – continuing process	WLDS manager and analysts, DTMB, WDA and CEPI staff
9. Assign new UICs to those without existing UICs	Months 13 thru 19	WLDS manager and analysts, DTMB, WDA and CEPI staff
10. Develop and implement Processes/Protocols for continuing to match LMI, UI, and OSMIS data, to assign and resolve UIC issues	Months 14 thru 20	WLDS manager and analysts, DTMB, UI, WDA, LMI and CEPI staff
11. Export Data to CEPI SLDS through secure network connections	Months 24 thru 31 for initial transfer – then becomes continuing process	WLDS manager and analysts, DTMB, and CEPI staff
12. Extract Longitudinal Data to Analyze State Workforce Agency Programs	Months 24 thru 27 for initial extraction then, continuing process	WLDS manager and analysts, LMI and DTMB staff
13. Apply Analysis to Program Improvement for State Workforce Agency Programs	Months 26 thru 32 – then becomes an ongoing process	P-20 Advisory Council, WLDS manager and analysts and WDA staff
14. Develop Plans to Incorporate Additional Data into the SLDS/WLDS (including TANF and vocational rehabilitation data and linking K-12/ PSE with UI Wage Records,)	Months 32 thru 36 – then becomes a periodic process	P-20 Advisory Council, WLDS manager and analysts and WDA, CEPI, LMI and UI staff

Improving the quality of workforce data

Through this grant, the WLDS will improve the quality of workforce data by expanding data collection validation and data entry accuracy. The WDA currently samples records in workforce programs for data entry accuracy and supporting documentation. The efforts will be expanded through additional training to WDA funded service providers who enter data into OSMIS. Unemployment Insurance Wage Records and Benefits are stored by SSN, and SSNs are validated by the Unemployment Insurance Agency. Since WDA does not validate SSNs, aligning this data will serve as a proxy validation process for workforce data thereby improving data quality of participant files identified by SSN. The reconciliation processes using names, dates of birth and any other available identification characteristics occurring during data matching and linkage will serve as further validation of participant record accuracy in all linked systems.

Developing or expanding the capacity to match workforce and education data

Workforce program providers currently update OSMIS data on a real time basis; subsequent incorporation by WDA into the WLDS will be on a monthly basis. CEPI holds data for extended periods of time and has the capacity to update files as needed. File copies are developed to preserve information that has been changed to enable administrators to review any SLDS data changes. The WLDS will link to the Michigan P-20 Statewide Longitudinal Data System. Linkage of WLDS data with the SLDS will allow data to be maintained according to legal requirements for educational resources per the FERPA.

Linking the data between the WLDS and the Michigan SLDS is defined as ensuring that secure network connectivity between the two systems exists. In order to connect WLDS participant data to the SLDS, WDA will need to assign UICs to participants. Once the existing OSMIS data is aligned with the UI data for the WLDS, a UIC field will be added to the OSMIS and applied to all future program participants. Data aligned in the WLDS by SSN and/or common applicant ID will be matched to SLDS data through a multi-field resolution process. WLDS and CEPI staff will collaborate closely to identify relevant data fields which can be used to match participant records appropriately with the SLDS. During the matching processes,

common data elements used by both systems, including a UIC and common geographic attributes will be standardized and leveraged throughout both systems. It is anticipated that many of the workforce participants will have been assigned a UIC during their tenure in the K-12 system, including adults served under WIA Title II. The project team anticipates three potential results from the matching processes:

- Complete Participant Match: An existing UIC will be imported to the WLDS from the SLDS;

- No Participant Match: A new UIC will be assigned; or

- Partial or Multiple Participant Match: File will undergo a reconciliation process to identify the appropriate match and existing UIC or to determine there is not a match and to create a new UIC.

The existence of an education record will trigger the creation of a UIC which, in turn, would be pushed to the WLDS to allow linking to workforce data. A common toolset will be used to access and join data elements across the systems. CEPI and DTMB currently use SAS Institute products including Enterprise Guide and Data Integration Studio to access, maintain, transfer, analyze, and report data from the Michigan SLDS. The common data toolset to use for the WLDS will be determined during the Requirements Gathering Sessions occurring during the first three months of activities. Requirements Gathering Sessions are facilitated assemblies of programmer/analysts, database administrators, subject matter experts and stakeholder representatives collaborating closely to identify system requirements for security access and control, reports, data management, and the user interfaces.

Key data elements that are frequently joined across systems will be kept in synchronization to increase performance and simplify queries against these elements. These key data elements include common lookup tables for codes and standards. When WLDS data with UICs is linked to educational data, including K-12 and postsecondary data, reports extracted through the Michigan SLDS will be available for analysis and evaluation.

Data analysis

State staff from WDA, UIA, LMI and CEPI will collaborate intently with the P-20 Advisory Council to provide guidance and insight into data research, analysis and evaluation questions and to ensure that interested stakeholders are afforded relevant information. The formation of a WLDS and the incorporation of this data into the SLDS will arm Michigan policy and program decision makers, as well as workforce and education practitioners and program decision makers with critical information to improve future workforce programming.

The WLDS and SLDS will enable WDA to provide comprehensive quarterly outcomes reports for core workforce programming, including WIA, Wagner-Peyser, and TAA. The focus of the quarterly reports will be on measuring program effectiveness and participant performance so continuous improvement occurs. The state works with providers on an ongoing basis through various professional development and technical assistance roles to help them understand how to use state level data to inform individual programs and practices. The frequent state and local collaboration results in effective assessment and management of Michigan's workforce programs and demonstrates which best practices have the most successful impacts.

Linkage of the WLDS and the SLDS will allow Michigan to better understand the impact and effectiveness of its innovative workforce development strategies on employment outcomes. In addition, linking the WLDS and LSDS will provide timely and relevant information that will allow the state to better align high school credentials with college and workforce expectations. This alignment will generate information relevant to increasing graduation rates, reducing the number of years to complete a college degree, and articulating college and other higher education programs with workforce demands.

Supporting Consumer Choice

WDA currently distributes program information to the public through monthly, quarterly and annual reports. These efforts will be expanded through this grant with new WLDS-based delivery platforms for distribution of information about education and training opportunities and their performance to enhance the

opportunities for workforce program customers to make informed decisions about participation in available education and training programs.

2.B. Status of the Michigan SLDS

The Michigan SLDS brings together in a single system student data from early childhood education, K-12 education, and higher education and combines it with school staffing, finance, and safety data. The Michigan SLDS is being created and constructed through a three phase process. Each phase incorporates the development of reports based upon data loaded into the system within that phase or previous phases. Reports include state and federal compliance reports as well as the development of content within the Michigan School Data education data portal. Each phase also allows for maintenance and enhancement of work done in previous phases.

Phase 1 of the Michigan SLDS grant project focuses on loading data from the core K-12 systems including student demographics, program participation, and assessment data as well as the school directory data. Phase 2 incorporates additional K-12 data including educational personnel information, teacher certification, and school financial data as well as more detailed data on specific programs including Career and Technical Education, Migrant, and Special Education. During Phase 2, CEPI is also currently incorporating individual-level higher education data.

Michigan SLDS student-level data elements include enrollment and transfer information, program participation, state assessment results, and high school and higher education graduation information. In 2010, CEPI was awarded $10.6 million to build on their work to create an SLDS (supporting SLDS grants in 2005 and 2009). Currently, Michigan's SLDS houses K-12 educational data and has established protocols and processes for continually updating the data and information available through the MSLDS. CEPI has incorporated postsecondary student data into the SLDS and has the capability to analyze the K-20 linked educational data. CEPI has created and continues to work on data governance, model policies,

agreements and memoranda of understanding with stakeholders to clearly articulate the appropriate uses of data, analyses and reports, while protecting individuals' rights and privacy.

The Phase 3 focus is less on K-12 data and more on early childhood and post-secondary data. Workforce data outlined in the $1 million Unemployment Insurance Employment Service Modernization grant from WDA are included in this phase as are additional post-secondary metrics including adult education, student financial-aid, and GED attainment data. At this time, CEPI anticipates being prepared to accept linked workforce data into the MSLDS in phase 3 of the SLDS grant project, in alignment with the efforts articulated in this grant proposal. CEPI will begin planning the strategy for pulling key WLDS data into the MSLDS in 2013, in accordance with the MSLDS and WLDS grant timelines.

Individual student educational data from the Michigan SLDS will not be incorporated in the WLDS. Any education data shared between the agencies would be governed by FERPA which only allows record sharing for evaluation purposes if the WDA is designated as an authorized representative of the state education agency. The individual students' educational data will only be stored in the Michigan SLDS and the UIC can serve as the link between the Michigan SLDS and the WLDS for analysis and reporting when appropriate. Aggregate-level metrics can be shared across systems given that appropriate cell suppression is applied to prevent identification of individuals through aggregates. The DTMB will conduct facilitated requirements gathering sessions with the WDA, UIA, LMI and CEPI in order to determine which portions of the workforce data will be integrated into the Michigan SLDS based on the articulated stakeholder needs and reporting requirements.

2.C. Single State WLDS

Michigan is submitting a single state WLDS grant application and does not currently plan to share or use data, with or from any neighboring states.

2.D. Sustaining WLDS

Sustainability planning is an important part of WDA's strategy. Matching existing data and incorporating a UIC will require a large initial investment of state capacity. This will require continued integration and resolution of CEPI administered UICs into the WLDS's workforce and employment data. In order to ensure the Michigan WLDS continues to function and receives updates, the WDA, UIA, LMI, CEPI and DTMB will renew the Memorandum of Understanding (MOU) which established the WLDS 60 days before expiration and every two years thereafter. The renewal processes of the WLDS MOU will include consideration and analysis of the currently available data and what additional data to incorporate through WLDS expansions.

During the implementation and initial use of the WLDS, WDA will develop processes, policies and protocols for continuing to update the WLDS with less significant additional costs. WDA will explore the possibilities to automate data matching processes and to what extent local providers could be allowed to perform some of the UIC assignment work and data reconciliation. Performing UIC assignment and data reconciliation processes at local levels with existing resources lowers the state's WLDS maintenance costs making the WLDS more sustainable. Local provider assignment and reconciliation also increases the validity of matched data because of closer proximity to the participant sources.

The critical need for comprehensive data collection, reporting and analysis to inform program improvement and consumer choice will drive continuation of the WLDS beyond the grant period. Governor Snyder is committed to using data and meaningful performance measures to ensure taxpayers receive greater value for money during the reinvention of Michigan. The WLDS aligns completely with Governor Snyder's vision. All stakeholders will use the analysis and evaluation of comprehensive information from the WLDS consistently to improve workforce system functionality and performance for employers and jobseekers. WDA is committed to continuing the WLDS with existing resources after this grant.

3. Description of Partnership Strategies

3.A. Partnerships within Michigan's State Workforce Systems

The WDA is organized to assist businesses, workers, and intermediaries in growing and taking full advantage of workforce and economic opportunities through administration of numerous federal and state programs providing training, employment, and reemployment services. WDA is uniquely structured to ensure that all necessary databases are virtually aligned and linked for the WLDS. The WDA includes all WIA, Wagner-Peyser, TAA, and welfare reform [TANF and Supplemental Nutrition Assistance work participation] programs, as well as adult education and community college services. Thus, WDA is uniquely positioned as the program managers and data collectors, reporters, and analyzers for Michigan's workforce system. Staff from WDA and the Bureau of Labor Market Information are currently working to identify processes to link and integrate data across the two agencies.

3.B. Partnership with the State Education Agency and CEPI

The WDA has already agreed to a partner with MDE (the state education agency) and CEPI to link workforce data into the SLDS. CEPI obtained a $10.6 million U.S. Department of Education SLDS 2010 grant. In support of this effort, WDA has contributed $1 million Unemployment Insurance Modernization funding to align workforce and employment data. See Michigan SLDS Project Overview in Attachment 3 – Michigan SLDS information. This grant award allows CEPI to devote staff resources to ensuring that the SLDS is able to receive and understand the workforce data.

The P-20 Advisory Council established by Executive Order 2010-15 and fully described in Section 1.B., clearly demonstrates the extent and importance of the partnerships between the WDA, MDE and CEPI. The P-20 Advisory Council is responsible for making policy recommendations to CEPI and MDE for full implementation of the P-20 system. The P-20 Advisory Council provides a structured environment for MDE, CEPI and the WDA to maintain the partnerships required to support and enhance the Michigan SLDS.

3.C. Partnerships with Research Entities

The P-20 Advisory Council will implement a research collaborative comprised of institutional researchers and state agency stakeholders. WDA, MDE, CEPI and the various program administrators, as well as the research collaborative, will ensure that state data facilitate research to identify student academic achievement gaps and leaks in the educational pipeline, improve education and training programs, and identify transition issues. The research collaborative will also assist the state in determining potential policy questions to be answered with data available through the WLDS and SLDS as well as evaluate the usefulness and appropriateness of individual research requests before allowing researchers access to state level data. In addition to working with the P-20 Advisory Council and research collaborative, WDA will continue to explore additional research partnerships for guiding workforce data research and analysis.

One additional research partnership important for the WLDS is with the University of Michigan. The University of Michigan is participating in the Center for Analysis of Postsecondary Education and Employment (CAPSEE). Beginning during summer 2011, CAPSEE is a five-year collaborative research study, data analyses, and evaluation of the relationships and links between employment and postsecondary education involving eight universities and institutions of higher education and five states agencies. A grant from the Institute of Education Sciences at the U.S. Department of Education funds the CAPSEE. The WDA and the Bureau of Labor Market Information will collaborate with the University of Michigan's roles in the CAPSEE and determine which projects may be done in conjunction with the WLDS.

3.D. Partnerships with Additional State Agencies

The Unemployment Insurance Wage Records and Unemployment Benefit Data are administered in the Unemployment Insurance Agency (UIA). WDA has the ability to share information with UIA and will utilize the identified work plan to link these data sets. Labor Market Information data is tracked and administered through the Bureau of Labor Market Information in DTMB. WDA and LMI are collaborating closely and will

continue to identify opportunities for linking and integrating workforce, adult education, economic and employment data across the two agencies.

Temporary Assistance to Needy Families (TANF) data is housed by Michigan's Department of Human Services. However, TANF recipients who are part of Michigan's Jobs, Education and Training (JET) program are included in OSMIS and therefore will be included in the WLDS. WDA will collaborate with the Department of Human Services to explore access for additional TANF-related and other public assistance program data to be included in the WLDS during the final two quarters of the WLDS project performance period.

With respect to vocational rehabilitation data, Vocational Rehabilitation Services participant data are maintained by Michigan Rehabilitation Services, which is within LARA, using the AWARE system. WDA intends to incorporate the vocational rehabilitation data contained in the AWARE system into the WLDS and will begin the integration processes during the final two quarters of the WLDS project performance period.

During the final two quarters of the WLDS project performance period, WDA will also explore how to incorporate economic development data into the WLDS. Recently, WDA has partnered with the Collaborative Development Council (CDC), a partnership representing the ten largest local and regional economic development organizations in the state. The CDC is working closely with vital local stakeholders and partners from their areas to understand local economic and workforce needs. WDA will leverage its current partnership with the CDC to promote the strong alignment and coordination of services which will better meet the needs of the business community and more efficiently use limited workforce investment funding.

4. Description of Database Design, Data Quality Assurance and Proposed Uses

4.A. Unique Identification Code (UIC)

The Unemployment Insurance Agency collects participant SSNs and validates SSNs to ensure the accuracy of Wage Record and Unemployment Insurance Benefit data. At the same time, some of the workforce programming data, including WIA Title I, Wagner-Peyser, and TAA data collects SSNs. While not required by the State of Michigan for WIA Title II data, some of the adult education data also contain SSNs. For participants in workforce programs with SSN information available, the WLDS will align their workforce data with their UI Wage Records and Benefit data. The remaining files - files without a SSN - will be aligned with UI Wage Records and Benefit data through a reconciliation process matching common fields (name, data of birth, address, phone number, etc). For participant files that are found to match through this process, the corresponding data files will be aligned for the WLDS.

Once the workforce and UI Wage Records and Benefits data is aligned for the WLDS, the data will be matched with existing educational data in the SLDS, managed by CEPI. Through this process there are three possible outcomes:

- Match with One SLDS File: Existing UIC will be applied to the workforce participant file;

- No Match with SLDS Files: A new UIC will be created and applied to the workforce participant file; or

- Imperfect or Multiple Match with SLDS File(s): Files will undergo a reconciliation process using common fields, such as name, address, date of birth, etc. If determined to match an existing file the existing UIC will be applied to the workforce file; if determined not to be a match, a new UIC will be created and applied to the workforce file.

As new workforce participants enter the system, CEPI will be queried to determine if the participant has an existing UIC. If a UIC exists, the workforce systems will import the existing UIC information into their data fields. If the participant has yet to be assigned a UIC, WDA will provide the participant with a new UIC

code. UIC codes will be common across educational and workforce data allowing all participant information to be linked and longitudinally analyzed.

4.B. Data Quality Measures

The WLDS will greatly improve the quality of available workforce data by improving data entry accuracy and data validation processes. The WDA currently samples records in workforce programs for data entry accuracy and supporting documentation. The efforts will be expanded through additional quarterly training sessions to WDA funded service providers who enter data into OSMIS. Participant social security numbers are currently validated by the UIA for Unemployment Insurance Wage Records and Benefits data, yet WDA does not validate SSNs. Aligning this data will enable WDA to align workforce data via validated SSNs. Linking databases allows for identification and correction of data inconsistencies and data standardization between systems. By linking the OSMIS, UIA and SLDS data systems, the inconsistencies can be identified and processes can be established to reconcile. For example, data missing in one system can be completed if the data exists in another of the systems.

4.C. Scope of Longitudinal Data

The creation of the WLDS will link WDA's workforce programming and Unemployment Insurance Wage Record and Benefit data. Currently, WDA's WIA, Wagner-Peyser, and TAA data is housed in OSMIS. TANF recipients who participate in Michigan's Jobs, Education and Training (JET) program and SNAP recipient who participate in the Food Assistance Employment and Training Program are included in OSMIS and therefore will be included in the WLDS. While Michigan's workforce programs' data are currently located in the same system, the state has yet to align the disparate program data effectively for full longitudinal analysis. Michigan's effort to form the WLDS will intentionally link these data sets to each other, which will subsequently be aligned with UI data via SSN. See Table A in section 1.C above for a full description of planned data sets and planned data linkages. Once the State has aligned the workforce and employment records data, the state will link this participant data with the state's educational data, including

K-12 and postsecondary education data through the SLDS using UICs and the common data fields from the reconciliation processes.

In addition to working within the P-20 Advisory Council and Research Collaborative frameworks established through the SLDS 2010 grant, WDA will conduct research and analysis to improve program performance and enhance customer choice. Specifically, during the WLDS project performance period WDA will:

- Identify key systemic measures for adult learner and worker transitions and achieve statewide agreement around new an additional measures for transitions;

- Identify common performance measures for cross-system regional partnerships and agreement on and use of key measures to assess performance;

- Conduct quarterly regional demonstrations around data collection, sharing and analysis to inform performance improvement and broader state data alignment actions, including working with CEPI on the design of the SLDS; establishing data sharing agreements, establishing the SLDS infrastructure to collect adult learner data, sharing data with SLDS using the new infrastructure, and ultimately using SLDS to conduct data matching and analysis to answer key questions about outcomes and inform policy and programming decisions.

- Use WLDS and SLDS to conduct analysis that will answer key questions about student and worker outcomes and inform policy and programming decisions.

Table B: Cross System Data Linkages, below on page 23, illustrates the workforce and educational program data elements, current and planned data linkages that will form the WLDS.

TABLE B: CROSS SYSTEM DATA LINKAGES AND AUTHORIZED DATA SHARING TABLE

DATA SET; DATABASE; AGENCY	PROGRAM DATA	INDIVIDUAL DATA SETS	CURRENT LINKAGE(S)	PLANNED LINKAGE(S)	DATA PARAMETERS	ASSOCIATED PARTNERSHIPS
Workforce Investment Act (WIA) Title I; One-Stop Management Information System (OSMIS); Workforce Development Agency (WDA)	WIA Adult Program Services; WIA Youth Program Services; WIA Dislocated Worker Program Services	WIA Registration, Services, Outcomes and Exits for Adult, Youth and Dislocated Worker Programs	Wagner-Peyser; Trade Adjustment Assistance (TAA)	Unemployment Insurance Agency (UIA); Wage Records; UIA Benefit Records; P-20 Educational Data	Individual Level Data; Social Security Number (SSN) Based Data	Data sharing agreements with: Labor Market Information (LMISI); UIA; Center for Education Performance Information (CEPI)
WIA Title II; Michigan Adult Education Reporting System, (MAERS); WDA	Adult Education Program Services	Adult Education Registration, Services - Classes and Attendance – and Outcomes such as Educational Gains and Credentials Received	WIA Title I; TAA; Wagner-Peyser	UIA Wage Records; UIA Benefit Records; P-20 Educational Data	Individual Level Data; Some SSN; Program Identification Codes; Unique Identification Code (UIC) Based Data for P-20; UIC Based Data for Adult Basic Education Programs	Data sharing agreements with: LMISI; UIA; CEPI
Wagner-Peyser; OSMIS; WDA	Wagner-Peyser Program Services	Wagner-Peyser Program Registration, Services, Outcomes and Exits	WIA Title I; WA Title II; TAA	UIA Wage Records; UIA Benefit Records; P-20 Educational Data	Individual Level Data; SSN Based Data	Data sharing agreements with: LMI; UIA; CEPI
Trade Adjustment Assistance (TAA); OSMIS; WDA	TAA Program Services	TAA Program Registration, Services, Outcomes and Exits	WIA Title I; WIA Title II; Wagner-Peyser	UIA Wage Records; UIA Benefit Records; P-20 Educational Data	Individual Level Data; SSN Based Data	Data sharing agreements in place with: LMISI; UIA; CEPI
Labor Market Information (LMI); LMISI	LMI;	Labor Market and Employment Projections and Analysis	None	Aggregated Links to Educational & Workforce Data; UIA Wage Record Data; UIA Benefits Data	Aggregated Labor Market Projections	Data sharing agreements with: WDA; UIA
UIA Wage Records; UIA Wage Record; UIA	Unemployment Insurance	Individual Employment Wage Records	UIA Benefit Records	WIA Title I; WIA Title II; Wagner-Peyser; TAA; P-20 Educational Data	Individual Level Data; SSN Based Data; Four year purge cycle	Data sharing agreements with: UIA
UIA Benefit Data Records; UIA	Unemployment Insurance	Individual Unemployment Benefit Records	UIA Wage Records	WIA Title I; WIA Title II; Wagner-Peyser; TAA; P-20 Educational Data	Individual Level Data; SSN Based Data; Four year purge cycle	Data sharing agreements with: UIA
P-20 Educational Data ; Michigan Statewide Longitudinal Data Base (SLDS); CEPI	P-20 Data; Post-secondary Data; P-20 ABE Data. Also Early Childhood Education, school staffing, finance, and safety data	Student-level Enrollment, transfer, program participation, assessment results and graduation information	P-20 and Postsecondary Educational Data	WIA Title I; WIA Title II; Wagner-Peyser; TAA; UIA Wage Records; UIA Benefit Records	Individual Level Data; UIC Based Data; No SSNs Collected	Data sharing agreements with: WDA; CEPI; Postsecondary Institutions

4.D. Security Measures

Michigan's workforce databases currently have processes and protocols in place to ensure the secure retention of confidential information. Since the WLDS utilizes existing databases and links them electronically, these existing processes will continue to maintain proper security. These measures include secure server locations, restricted hardware access, software and patch levels to restrict access, firewalls to ensure only authorized users access data and protocols for initiating user account changes. All authorized staff are required to sign confidentiality agreements before being permitted to access data.

Current security measures will be extended to the WLDS. All new staff members, including the WLDS manager and two data analysts, will be required to sign confidentiality agreements. Additional security measures, including HTTPS data transmission protocols, will be implemented to ensure that any shared data remains confidential and secure data. Linkage of WLDS data with the SLDS will allow data to be maintained according to legal requirements for educational resources per the FERPA.

Only authorized staff from WDA, UIA, LMI, and CEPI that have gone through the specific user authentication procedures for security measures will be allowed to access the WLDS. The State of Michigan staff with access to the WLDS will follow all established DTMB security procedures, protocols and processes to ensure the confidentiality of WLDS data. Workforce program providers and other state agencies will not be allowed to access the WLDS directly until proper data-sharing agreements are completed. Requests for WLDS data will be subject to a confidential access application process where requestors must describe how data would be secured, for what the requested data will be used, and the duration of use. Approvable requests would then need to have relevant data-sharing agreements fully executed with each WLDS agency in order to receive any data.

4.E. Planned Reports/Deliverables

Alignment of a WLDS with the SLDS will greatly enhance Michigan's ability to analyze the impact of state workforce program effectiveness and participant performance. WDA plans to develop comprehensive

reports related to outcomes for WIA, Wagner-Peyser, and TAA that will allow the state to determine the impact of interventions from workforce programs, as well as K-12 and postsecondary education on employment outcomes. Specifically, the longitudinal data resulting from the creation of the WLDS will be used to produce a range of reports including but not limited to:

- Analyses of transitions between K-12 education, postsecondary education and workforce;

- Detailed synthesis of workforce training programs' training types and completion with associated employment outcomes;

- Analyses of transitions between adult education, postsecondary education and the workforce; and

- Identification of barriers to program participation.

These reports will be made readily available to the public through multiple distribution mechanisms, including press releases, regular notices to service providers within the state, WDA's Research and Reports website (http://www.michigan.gov/mdcd/0,4611,7-122-1682---,00.html), and Pure Michigan Talent Connect (http://www.mitalent.org/). Throughout the WLDS project performance period, the P-20 Advisory Council will also lead WDA, CEPI, UIA and LMI in the additional requirements gathering sessions needed to design and build reports which answer important questions based on stakeholders' identified needs.

Successful use of a thorough WLDS will provide the State of Michigan with timely, relevant and comprehensive information which will allow the state to identify and adopt best practices, reduce duplication of programming and practitioner efforts, and align increasingly scarce resources across diverse funding streams efficiently and effectively.

5. Staffing Capacity

If awarded a Workforce Data Quality Initiative Grant, WDA will provide a Workforce Longitudinal Data System Manager and two Workforce Longitudinal Data System Analysts, who will be responsible for

implementation and overall day-to-day administration of the WLDS. These three staff will perform research, data analysis and preparation of comprehensive reports using WLDS data. Funding from the grant will support all three positions' salaries and fringe benefits.

5.A. WLDS Manager

Michigan plans to use funding from this grant to hire a full time WLDS manager. The WLDS manager will be responsible to for overseeing all activities associated with the WLDS, including:

- Working closely with partner agencies on building workforce data awareness;

- Managing additional WLDS staff members, providing strategic guidance and coordination of data matching efforts;

- Developing and analyzing processes, policies and issues related to the business needs and technical functionality of the WLDS;

- Working closely with partner agencies to develop, modify and implement any remaining Memorandums of Understanding or data sharing agreements;

- Facilitating communication and coordination of changing data collection needs of state agencies collaborating for the WLDS and additional agencies who require WLDS data to inform decisions; and

- Preparing reports and correspondence related to the WLDS.

5.B. Duties and Responsibilities of Data Analysts

Michigan plans to employ two full time data analysts. Data analysts will be responsible for the following:

- Analyzing data collection processes, policies, and issues related to the business needs and technical functionality of the WLDS;

- Building data awareness of workforce data collection system and associated feeder databases;

- Working closely with state agencies on building data awareness of those data collected in the state relative to workforce, adult learners and systems supporting adult learning;

- Preparing and assisting to prepare reports and correspondence related to the WLDS system;

- Assisting in defining data reporting needs relative to adult learner and workforce data;

- Working with the WLDS team to develop policy materials, operations manuals, and supporting instructions relative to workforce data collection;

- Assisting project teams in the research, planning, development and implementation of enhancements to SLDS and WLDS in support of adult learner and workforce data collection; and

- Facilitating communication and coordination of the dynamic data collection needs of state agencies.

5.C. Proposed Staff Qualifications

Michigan proposed staff members are expected to have the following qualifications:

- WLDS Manager: The WLDS Manager must have managerial ability, good organizational skills, good communications skills (oral and written), good analytical skills and able to work in a complex work environment. In addition, they must understand and have experience with software tools such as query applications to extract data from database systems. Qualified candidates will also be familiar with databases and web-based applications, and project management.

- WLDS Data Analysts: Must have good organizational and communication skills. Must be detail oriented and have good analytical skills. Must be customer oriented and able to work with a wide range of project partners. Must be able to use software query tools and database applications.

5.D. Confidentiality

Access to data, including confidential data, is restricted to authorized staff. Authorization includes security key access to data centers. Staff must sign confidentiality agreements before being granted access to confidential data. Access is further restricted by data set to authorized staff. Any transmission of confidential data is encrypted and sent through secure Internet transmission protocols.

5.E. Entity Employing Proposed Staff Members

The WLDS manager and two data analysts will be employed by WDA. This project will require significant Information Technology (IT) support from DTMB staff who are assigned to WDA, UIA, LMI and etc. Staff functions would include IT project management, programmers, programmer analysts, database managers, systems analysts and network administrators. The following existing staff will work on the project:

- Joe Billig, OSMIS data system manager, WDA – 8 years. Labor Market Analyst – 7 years. Currently oversees the development and maintenance of the Internet based OSMIS for federal and state funded programs. Develop policies, procedures, guidelines, and manuals governing the use of OSMIS. Respond to customer needs related to use of system and system changes. Responsible for the performance evaluation of workforce development programs and manage Information Technology needs of over 240 employees.

- Dean Smith, Michigan Adult Education Reporting System administrator, WDA –12 years. Project manager for Michigan Works! Association – 12 years. Currently manages all aspects of the Adult Education data collection, analysis and reporting. Develops and implements strategies for meeting federal and state reporting requirements. Responsible for oversight of local data collection and for developing standardized and customized reports to management and program users.

- Howard Boyer: IT Application Development Manager, Department of Technology, Management & Budget – 10 years. Directs all aspects of application development and support for a variety of Workforce data systems. Has been responsible for the creation of several statewide data systems such as Michigan Talent Bank, Michigan Adult Education Reporting System, One-Stop Management Information System, Labor Market Information Website and the Wage Record historical database.

- John H. Henige, State Division Manager, Unemployment Insurance Agency, LARA, provides data coordination for the various data sets for the Unemployment Insurance wage and benefit data system. These data sets are used to satisfy a number of state and federal reporting requirements and are used to assist in determine client service eligibility. John possesses broad background in data collection and analysis and serves as the liaison staff to WDA and other existing offices and bureau staff members.

- Richard H. Waclawek, Director, Bureau of Labor Market Information and Strategic Initiatives – 7 years. Provides data on occupational wages, job outlooks, industry forecasts and employment statistics for the state of Michigan. Has extensive experience in the global automotive industry, most recently in corporate business operations, business and strategic planning, and product portfolio management. Strong international background both as a global director of corporate strategy and as a manager on an international assignment in Europe. He also possesses a broad technical background in engineering of automotive components and systems and has more than 14 years experience in engineering and corporate management.

- CEPI employed adult learner data analysts: Data analysts work with WLDS staff members to import workforce data elements into the SLDS.

6. Other Data Linkages

As a result of this grant opportunity, Michigan will form the WLDS using UI Wage Records and Benefit Data, WIA data, Wagener-Peyser, and TAA data, and LMI data. Once these data components are integrated and matched, the state will work with the DHS during the final two quarters of the WLDS project performance period to expand the existing JET participant data and to develop data sharing agreements to allow the information to be imported into the WLDS and SLDS. Upon the establishment of a shared MOU

and data sharing agreement, Michigan will begin incorporating additional TANF data into the WLDS. At the same time, Michigan will work to develop data sharing agreements with the MRS in order to incorporate vocational rehabilitation data into the WLDS. The state will then be able to analyze the impact of TANF and vocational rehabilitation interventions on employment and training outcomes. Opportunities to include local and regional economic development data available through the WDA's partnership with the state's ten largest local and regional economic development corporations will also be considered and implemented. Michigan is committed to making efforts to link these additional data sets whether or not it is feasible to do so within the scope of this grant opportunity.