

1 CITY OF TOLEDO, OHIO

2
3 PROCEDURES, SPECIFICATIONS, AND CONDITIONS FOR
4 A LICENSE FOR A CITYWIDE WIRELESS NETWORK

5
6 Updated January 16, 2007
7

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10 This document is on file in the City of Toledo
11 Office of the Purchasing.

12
13 **Please read this entire document carefully before bidding.**

14
15 The deadline to bid is February 20, 2007
16 A pre-bid conference, which is optional, will be held on February 2, 2007 at 2PM
17 in One Government Center on the 12th Floor, Conference Room A.
18 Written questions may be submitted through February 10, 2007
19
20

21 **INTRODUCTION**

22 The project's goals are to provide a convenient public service to users, stimulate economic
23 development and tourism by drawing people to Toledo, promote the image of Toledo as a high-
24 tech community, and test the feasibility of using wireless devices for municipal operations.
25 Although some indoor users may be able to connect to the system, the service is not intended to
26 compete with commercially available Internet service and should not replace existing home or
27 business Internet access.

28
29 The need for a municipal wireless network, and the City's desire to increase broadband Internet
30 access and options for all types of users, the City proposes to grant a License, in the manner
31 prescribed by State law, permitting the design, construction, maintenance, and operation of a
32 citywide wireless network in the public rights-of way and on other public property. This
33 document explains the procedures for bidding and provides the specifications and conditions
34 under which the License may be granted.
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**PART 1:
PROCEDURES**

A. QUESTIONS FROM BIDDERS AND OPTIONAL PRE-BID CONFERENCE

A pre-bid conference will be held on February 2, 2007, in One Government Center, Toledo, OH. Staff will make a brief presentation and then answer questions. Bidders are invited to attend the pre-bid conference. All questions about the project submitted through February 10, 2007, will be acknowledged and are planned to be answered in writing through February 15, 2007. The answers to questions submitted in the above manner will not identify the prospective bidders who asked the questions. Written answers to questions can be found on the City of Toledo website under the Department of Information and Communications Technology.

In the interest of fairness to all prospective bidders, City staff will not answer questions about this project orally or privately. Written questions regarding the procedures to bid should be submitted to:

Dr. Patsy Scott
Director of Information and Communications Technology
City of Toledo
Suite 340
One Government Center
Toledo, Ohio 43604
patsy.scott@toledo.oh.gov
Fax: (419) 245-1475

at any time and will be answered promptly. Bidders shall rely only upon this document and any written amendments thereto, and written answers to question, in preparing and submitting their bids.

B. WHERE TO SUBMIT BIDS

All bids must be submitted in writing and delivered to:

Adia Boston, Commissioner
Division of Purchasing
One Government Center, Suite 1970
Toledo, OH 43604

C. DEADLINE TO BID

The deadline to bid is February 20, 2007

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D. BID OPENING

Bids will be opened on February 20, 2007 at 2:00 PM Eastern Time, at the location listed in Section B above. The identity of the bidders will be announced at that time, but there will not be a detailed review of the bids.

E. EVALUATION BY CITY STAFF

Once all bids have been identified, they will be referred to the Director of Information and Communications Technology and her staff to be evaluated in the manner prescribed by law. Bidders may be interviewed as part of this process. The City reserves the right, in its sole discretion, to waive any defect or omission in any bid that does not materially affect the License process, and reserves the right to reject any or all bids, in deciding which bidder is the most responsible and advantageous to the City.

The following evaluation criteria will be used in the evaluation process and are listed in order of importance:

1. Ability of respondent to provide the services specified in this document, based on experience with similar projects as evidenced by a list of similar projects and references submitted in the bid;
2. Proposed approach and methodology to execute the scope of work, including suitability of the proposed business model;
3. Proposed public benefits, both in-kind and financial;
4. Financial stability; and
5. Experience of specific personnel who will work on the project

If staff identifies a preferred bidder, a License agreement will be negotiated between City staff and the bidder. City Council will not be a participant in the evaluation and subsequent negotiations. The License agreement will include the final terms under which the License will be granted if approved by City Council.

F. AWARD OF LICENSE

If a License agreement is negotiated, that License agreement will be presented to the City of Toledo administration and then to City Council for approval.

G. LICENSE PERIOD

The License period will be determined through negotiation and specified in the License agreement, but will be at least five years in duration.

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H. REQUIRED FORMAT AND CONTENTS OF PROPOSALS

In addition to any other information required by this document, the information listed in this section must be included in all bids. Failure to provide any required information may result in rejection of the bid.

Bidders should not use the City’s logos, seals, or emblems on bid materials, except as necessary in an illustration or mockup of a proposed deliverable.

Include 10 complete copies of the bid.

1. Title Page

The title page should reflect the subject of the bid, the name and contact information of the bidding firm(s), the name and contact information for a contact person, and the date the bid was prepared.

2. Table of Contents

The Table of Contents should indicate the material included in the proposal by section and page number, and should mirror the items (3-8) in this section.

3. Letter of Transmittal

A letter of transmittal of no more than three pages should include:

- a. A statement of the bidder’s understanding of the work required, and a general explanation of the proposal.
- b. The names, titles, and contact information of the persons who are authorized to make representations on behalf of the bidder.
- c. A statement that the individual who signs the transmittal letter is authorized to bind the bidder to contract with the City.

4. Profile of the Bidder

- a. Whether the bidder is a local, regional or national firm or group of firms.
- b. How long the bidder has been in business under the present name and structure. Provide any other names under which the bidder has done business and the dates and locations at which it operated under each name.
- c. Identification of the key full-time and part-time staff who will be assigned direct work on this project.
- d. A copy of the bidder's Dun and Bradstreet profile.
- e. A description of any projects executed by the bidder during the most recent three-year period similar in scope to the City's project. To the extent possible, include work for clients who are local or state governments. Explain roles performed by the proposed personnel in these projects.

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f. A minimum of three references for services comparable to those specified by the City. Provide complete addresses and telephone numbers of each reference, as well as the name, title and the telephone number of a contact individual. For each reference, describe the contract and its length, when implemented, scope, and dollar value.

5. Required Representations by the Bidder

a. Submit a statement that supervision of the bidder's staff providing the services will be by a principal of the bidder.

6. Bidder's Response to Scope of Work

This part describes in detail the actual proposal by the bidder, and the nature of the License. The description should generally follow the order of Part 2, below.

7. Alternate Approaches to the Work

Bids will be evaluated based on the requirements listed herein. However, bidders are welcome to outline additional services or alternative approaches that they feel are in the City's best interest.

8. Additional Data

Data not specifically requested herein, but which is considered essential to the bid, may be presented in this. If there is no additional information to present, state "There is no additional information we wish to present." Suggestions of possible additional information include, but are not limited to, copies of relevant media reprints and promotional brochures.

202 **PART 2:**
203 **SPECIFICATIONS AND CONDITIONS**

204
205 **A. OVERVIEW**
206

207 The City of Toledo, Ohio (hereafter “the City”) solicits proposals from qualified
208 Firms or groups of firms and their subcontractors (hereafter, “the Contractor”), to be
209 awarded a License for the use of public property for the installation and operation of a
210 citywide wireless network (hereafter, “the network”).
211

212 The City’s goals and objectives for a citywide wireless network are:
213

214 A.1. The Contractor will provide, install, maintain, upgrade, and operate all equipment
215 necessary for a citywide network that enables users to connect to each other, the Internet,
216 or both.
217

218 A.2. In exchange for the right to mount equipment on public property or use any utility
219 owned by The City of Toledo at a negotiated cost to the Contractor, the Contractor will
220 provide the following public benefits:
221

222 A.2.a. The City will have free use of the network for municipal use.
223

224 A.2.b. The public will have free wireless Internet access in certain outdoor areas
225 and public facilities in the City.
226

227 A.2.c. Residents of public housing developments in the City will have free
228 wireless Internet access.
229

230 A.2.d. Low-income residents may purchase wireless Internet access at a cost
231 significantly below market rate.
232

233 A.2.e. A negotiated amount of free wireless service will be provided to the City
234 to be allocated for the purpose of economic development.
235

236 A.3. The Contractor will be expected to pay the City some amount of rent for the use of
237 City property in or on which equipment is installed. Bids should indicate the annual rent
238 proposed by the Contractor, or the in-kind services (such as those in A.2. above)
239 proposed in lieu of rent.
240

241 A.4. To provide a return on its investment, the Contractor will sell retail wireless Internet
242 access to residential and business customers, and wholesale network access to other
243 providers for resale.
244

245 A.5. To promote a fair and equitable market for Internet services, in which both
246 businesses and consumers receive the most benefit:
247

248 A.5.a. The City will not offer an Internet product or service to the public in
249 competition with a private provider.

250
251 A.5.b. Licenses will not be exclusive. Although only one License will be
252 awarded under the process to which this document applies, this does not
253 preclude the City from soliciting for and awarding another wireless
254 License at a later date.

255
256 A.5.c. Contractors will not discriminate in the provision of retail or wholesale
257 accounts on any unlawful basis, and wholesale access to the network will
258 be available to all providers, regardless of type or market condition, if they meet
259 appropriate technical standards.

260
261 A.6. A 90% coverage roll-out of the municipal network across the City's 88 square
262 miles must be completed within 6 months with 100% coverage of the City within 9
263 months from the date of completed License agreement.

264
265 The remainder of this Part 2 describes the above model in greater detail. The specific
266 terms of any License will be negotiated based on these terms. These terms and
267 conditions described herein represent the City's highly desirable goals and objectives,
268 but may be waived by the City if, in the City's sole discretion, such waiver would be in
269 the City's best interest

270 271 **B. PROJECT ENVIRONMENT**

272
273 B.1. Toledo is located in Northwest Ohio, 50 miles south of Detroit and 110 miles west
274 of Cleveland. The estimated 2005 population was 313,619 with approximately 139,880
275 housing units. The average household income in 2004 was \$32,546. As of 2002, 19% of
276 adults had a bachelor's degree or higher.

277
278 B.2. The City encompasses 88 square miles, at an average elevation of 615 feet above
279 sea level. The average temperature is 33° F in January and 78° F in July. Winter snows
280 are generally mild, but ice storms occasionally occur during January and February.
281 Summers are generally humid from July through early September.

282
283 B.3. Bidders (or their representatives) are expected to have visited and be familiar with
284 the physical characteristics of the City prior to submitting proposals.

285 286 **C. THE NETWORK**

287
288 C.1. The network is expected to consist of wireless access points (routers) mounted
289 throughout the City in a mesh configuration, and related network hardware and
290 software, so as to enable wireless user connections conforming to the IEEE
291 802.11 ("Wi-Fi") standards. The network should provide direct access to outdoor users
292 or indoor users near building perimeters, and access to other indoor users through a
293 customer premise device supplied by the provider (including the Contractor acting as

294 provider) for a charge or for free, such that each user receives reliable symmetrical
295 throughput of at least 1Mbps (at least 150kbps for public users as specified in C.3.b.).
296

297 C.2. The network must provide robust and industry-leading security protocols and
298 measures to effectively segregate the City's use of the network from other uses,
299 and each provider's use of the network from each other's. The network must provide for
300 access control options including encryption, client-side authentication, MAC address
301 registration, and virtual private networking. The network must provide for protection
302 against malicious clients and programs. The network must allow for access with no user-
303 configured security settings for the free access provided in public places. The network
304 must be secure for safety force use.
305

306 C.3. The network must provide for at least the following classes of users:
307

308 C.3.a. City Users. These users will be City officers, employees, contractors,
309 volunteers, agents, or other users acting on the City's behalf, as well as
310 City-owned, unmanned wireless devices such as but not limited to traffic
311 cameras, parking meters, or sensors. City users will have been identified in
312 advance of use and will use a method of authentication. Traffic from City users
313 designated as critical, or during times designated as critical, must have the
314 highest priority on the network. Subject to any further limits placed on them by
315 the City, these users must have unrestricted access to the City's portion of the
316 network, and to the Internet.
317

318 C.3.b. Student Users. These users will be up to 2,500 students in 9th-12th grades
319 in the Toledo Public Schools and private schools, who have been assigned
320 school-owned laptops. They will connect to the existing TPS or other specified
321 network enterprise network to use TPS or other specified network resources and
322 Internet connectivity. They will not require Internet connectivity from the
323 Contractor. In the future, TPS and private school systems may expand the laptop
324 program to include K-8 students, and the City and school systems may wish to
325 expand wireless access to these laptops, as well.
326

327 C.3.c. Commercial Users. These users will be retail and wholesale customers of
328 the Contractor and providers who purchase access from the Contractor. These
329 users include any free or reduced-price accounts given to low-income residents.
330

331 C.3.d. Public Users. These users will be members of the public, not identified in
332 advance of use, who use the network for free in certain public areas. This access
333 will be unencrypted and have the lowest priority on the network. Bandwidth may
334 also be lower than that of other users. Public users must not be able to access
335 network resources other than those intended for their use, but Internet access
336 must not be restricted other than as specified by the City. Public users must be
337 initially routed to a home page (captive portal), of a design approved by the City.
338

339 C.4. The network must support mobility applications for City users, which will
340 allow continuous connections to the network in vehicles traveling up to 60 mph.

341
342 C.5. The network must automatically reroute traffic in the event of the failure of
343 part of the network.

344
345 C.6. The network must include uninterruptible power supplies capable of
346 supporting citywide emergency use by City users for at least 10 hours (but
347 preferably longer), in the event of a loss of electrical power to the network.
348 During such time, access to other users may be restricted.

349
350 C.7. The network must be scalable and upgradeable, to prevent it from becoming
351 obsolete and to enable it to adapt to new applications.

352
353 C.8. The network must not cause harmful interference to nearby equipment
354 including other wireless providers and users, community wireless groups, and
355 other users of the same frequencies.

356 357 **D. INSTALLATION**

358
359 D.1. The network should leverage existing public infrastructure, to minimize the
360 need for any new towers or mounting structures. Any equipment installed in
361 visible outdoor locations must conform to the aesthetics of the area in which it is
362 installed, must be physically appropriate for the type of installation used, and
363 must not interfere in any manner with existing equipment or nearby users.

364
365 D.2. The City does not own or operate any public utilities except the
366 water/sewer/stormwater utility. Approximately 10,000 streetlights in the City
367 are owned and maintained by Toledo Edison. The remaining streetlights, which
368 are owned by the City, are of a decorative style not suitable for attachments. The
369 City also owns and maintains traffic signals at approximately 530 signalized
370 intersections, on which equipment may be placed subject to further agreement.
371 The exact locations of these assets can be provided to the Contractor as a GIS
372 layer or other electronic map. Any use of non-City resources, such as Toledo
373 Edison street lights, must be coordinated directly between the Contractor and the
374 non-City entity, without City intervention or remuneration.

375
376 D.3. To the extent possible, the Contractor is encouraged to use local contractors –
377 particularly small, women-owned, and minority-owned businesses -- to install
378 and maintain the network. Mobility applications may also be supported for
379 commercial users, but need not be supported for public users.

380
381 D.4. Installation of the network must be substantially complete, and the network
382 must be substantially operational, within six months of the date the License takes
383 effect. The Contractor will not be held responsible for any delays caused by the
384 City, including delays in the issuance of any permits required by the City and

385 timely applied for by the Contractor.

386
387 **E. CONTRACTOR’S RESPONSIBILITIES**

388
389 E.1. The City expects the Contractor to provide a complete, fully-furnished,
390 financed, proven and tested, turnkey solution.

391
392 E.2. The Contractor will be the installer, operator, manager, and owner of the
393 network. The Contractor will act as a provider to the City and to the Contractor’s
394 retail and wholesale customers. Wholesale customers will act as providers to their
395 users.

396
397 E.3. The Contractor will be responsible for all equipment, data center operations,
398 management, oversight, monitoring, and other similar functions related to the
399 general operation of the network. The Contractor will not be responsible for such
400 functions with respect to individual users/customers’ applications of the network.

401
402 E.4. The Contractor will be responsible for all customer service, technical support,
403 billing, and other similar functions. No user or customer, other than City users, will
404 have any direct contact or relationship with the City regarding these functions.

405
406 E.5. The Contractor must provide system performance and use measurement,
407 monitoring, repair, and maintenance, 24 hours per day. The Contractor must
408 maintain nearly 100% system uptime, as specified in the service level agreement
409 negotiated as part of the License.

410
411 E.6. The Contractor must plan for and implement upgrades to equipment,
412 hardware, and software, such that no part of the network’s technology becomes
413 obsolete or incompatible.

414
415 E.7. The Contractor will provide the backhaul Internet connections for the network.
416 There is an extensive fiber-optic network in Toledo. Any use of non-City resources
417 must be coordinated directly between the Contractor and the non-City entity,
418 without City intervention or remuneration.

419
420 E.8. The Contractor will install, maintain, upgrade, monitor, and operate the
421 network in a manner consistent with all local, state, and federal rules, regulations,
422 ordinances, and laws, particularly those concerning zoning, historic preservation,
423 and communications equipment.

424
425 E.9. The Contractor will protect the privacy of all users through appropriate
426 technical design of the network. The Contractor will not monitor or intercept the
427 content of users’ communications on the network, except as reasonably necessary
428 in an emergency, for the maintenance of the network, or to respond to a lawful
429 government order.

431 **F. PUBLIC BENEFITS**

432
433 F.1. The City will have free use of the network for municipal use, in accordance with the
434 terms negotiated between the parties and specified in the License agreement.

435
436 F.2. The public will have free wireless Internet access in outdoor areas and public
437 facilities in the City. Locations to be determined. This access will be branded as
438 “Wireless Toledo” and marketed by the City with language approved by the City and the
439 Contractor.

440
441 F.3 Low-income residents will receive free or reduced-price Internet access accounts
442 (not to exceed \$10 per month for the duration of the license period, exclusive of taxes,
443 third-party fees, and equipment rental) upon their request. Eligibility criteria and
444 ordering procedures will be determined through the negotiation process and include in
445 the License agreement. Eligible households will not exceed 10% of the households in
446 the City.

447
448 **G. COMMERCIAL PRACTICES**

449
450 G.1. Residential and business users may purchase retail Internet access accounts from
451 the Contractor. The monthly rate for a retail residential account may not exceed \$20.00
452 during the first year of the License, exclusive of taxes, third-party fees, and equipment
453 rental. After the first year, the rate may be adjusted to reflect the market.

454
455 G.2. Other Internet service providers may purchase wholesale access to the network, or
456 wholesale Internet access accounts, to resell to their customers.

457
458 G.3. Neither the Contractor nor any other providers using the network may represent,
459 either explicitly or implicitly, that their products or services are endorsed or sponsored
460 by the City.

461
462 G.4. The Contractor will be responsible for determining what taxes, fees, or other
463 charges apply to each of its customers.

464
465 **H. REQUIRED SUBMISSIONS**

466
467 In addition to all other submissions required herein, each bidder must include a detailed
468 response to the requirements in this Part 2. In particular, responses should include:

469
470 H.1. The make, model, size, weight, estimated location, estimated quantity, and technical
471 specifications (including electrical power requirements, outdoor exposure ratings, and
472 mounting techniques) of all equipment, hardware, and software proposed to be used in
473 the network. Include a photograph of a typical wireless access point, as installed. The
474 City may be able to make space available for a network operations center, depending on
475 network needs, but this possibility is not guaranteed.

- 477 H.2. A detailed description of the network and backhaul connections, including the
478 capacity of the network for each class of user, maximum concurrent users and
479 bandwidth, and the typical network and Internet bandwidth each class of user can expect.
480
- 481 H.3. A discussion of the suitability of the network for voice (VoIP) and video
482 applications, including stationary and mobile access.
483
- 484 H.4. A site suitability survey, signal study, spectrum analysis, or other documentation of
485 the method used to determine that the proposed network will provide citywide wireless
486 coverage. Bidders are not expected to have invested in a comprehensive analysis of the
487 coverage area to prepare a bid, but must demonstrate that there is a reasonable basis for
488 the estimated number and location of access points proposed.
489
- 490 H.5. The specific wireless frequencies used by all equipment, and any limitations or
491 licensing issues resulting from the use of such frequencies.
492
- 493 H.6. The detailed business model proposed, including the relationships and
494 responsibilities of all parties, and the identities of any known partners, providers,
495 resellers, subcontractors, or other such entities. Include a specific discussion of the role
496 of commercial advertising, rent, and revenue sharing, if any, in the model. The business
497 model should not include any grant funding that has not already been secured.
498
- 499 H.7. Projected revenues and expenditures for the proposed duration of the License,
500 including key variables and assumptions, retail and wholesale rates, and use by a class of
501 users.
502
- 503 H.8. A detailed implementation timeline, including all key tasks and subtasks to be
504 performed, milestones to be achieved, and deliverables to be provided.
505
- 506 H.9. A discussion of comparable alternatives to the proposed solution, and why the
507 proposed solution is a better choice.
508
- 509 H.10. A discussion of security issues and ways in which the network will provide
510 appropriate security for each class of users.
511
- 512 H.11. A discussion of how the network will respond to problems ranging from routine
513 data congestion to a physical disaster.
514
- 515 H.12. A discussion of Quality of Service (QoS), traffic shaping, and prioritization
516 options available to ensure the reliability of the network for the City's public
517 safety use.
518
- 519 H.13. A discussion of how the Contractor will plan and implement upgrades to avoid any
520 component of the network from becoming obsolete.
521
- 522 H.14. A discussion of how the network will avoid causing harmful interference with

523 other networks and users.

524

525 H.15. The service level available to each type of user in the event of technical difficulty.

526

527 **I. OTHER**

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529 I.1 If the bidder sells video programming on its network, the bidder will be subject to the
530 City's cable television franchise fee of 4.5%.

531

532 I.2 If at the end of the five year period (or whatever term is negotiated), the bidder does
533 not receive a license to continue providing wireless Internet services in the City, it will
534 have a 90 days to sell or remove its equipment from City property or the City will take
535 ownership of it.

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538 **J. DEMONSTRATION OF CAPABILITIES**

539

540 The City may require finalists to demonstrate the capabilities of their proposed solutions,
541 using either an on-site test or an existing network in a location convenient to City staff.

542

543 The demonstration should include both stationary and mobile access. The City will assist
544 in arranging for any temporary installation necessary to perform an appropriate
545 demonstration. Bids should include a discussion of the time and logistics necessary to
546 provide the required demonstration.

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551 **K. EVALUATION**

553 The City reserves the right to review proposals for acceptance or rejection for a period of
554 up to 90 days from the proposal opening date. (The normal evaluation period, however,
555 is less than 30 days). In addition, the City reserves the right to reject all proposals, to
556 amend the original estimate and to advertise for new proposals on the required items,
557 products or services.

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559 **L. TERMS AND CONDITIONS**

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L.1. General

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L.2. Proposals Rejection

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The City reserves the right to reject any, or any part of any, or all proposals, to waive formalities and technicalities, to advertise for new proposals or to make the award if, in the judgment of the City, the best interest of the City will be promoted hereby.

L.3. Legality

The City is a public entity that must comply with certain legal requirements and internal review procedures prior to awarding any contract.

No party has a right to expect that he/she/it will be awarded a contract with the City absent adherence to legal requirements and review procedures